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ABSTRACT

The New Horizons project was a workplace literacy partnership during which 454 employees (53%) of Georgetown Steel attended classes provided by Horry-Georgetown Technical College in Conway, South Carolina. Of the 454 participants, 294 were white, 159 were black, 71 were female, 383 were male, 133 had been with the company for 5 years or less, and 227 for 16 or more years. The participants, who had a mean age of 40.6 years, received a total of 14,232 hours of instruction in math, reading, writing, problem solving, and time management classes averaging 6-8 students per class. A comprehensive needs assessment was conducted to identify employees requiring basic skills instruction. Individualized Education Plans were developed for each participant. A comprehensive evaluation of trainee outcomes that included pre- and posttesting and interviews with participants and supervisors established that participants averaged 22%, 39%, and 14% gains in reading, math, and writing skills, respectively. Also included is a third-party evaluation report confirming the significant skill gains achieved by course participants. Appended to the third-party evaluation are the participant and supervisor survey forms, an analysis matrix of project objectives, and 22 charts detailing participant survey and pre- and posttest data. (MN)

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ED 379 435

New Horizons
A National Workplace Literacy Program
Final Report

"New Horizons" External Evaluation Impact Study

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CE 066204

New Horizons

a National Workplace Literacy Program

Award #V198A20067

Final Report
To Cover Activities
June 1, 1992 - April 30, 1994

Prepared by

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New Horizons
Award # V198A20067

Participant Statistics
June 1, 1992 - April 30, 1994

454 Employees attended classes provided by the New Horizons Project (This represents 53% of the entire Georgetown Steel employee population).

Mean Age of Participants = 40.6 years

Female Participants = 71 Male Participant = 383

Race/Ethnicity =	White	294
	Black	159
	Hispanic	0
	Native American	0
	Asian	1

Contact Hours Provided = 14,232

Number of Years with the Company =	0-5	133
	6-10	44
	11-15	50
	16 or More	227

New Horizons
Award #V198A20067

Objectives, Accomplishments and Observations

Objective #1

To identify and select instructors who have a successful background in Adult Education and job-related workplace training. To conduct training and orientation sessions for all instructors, which will: review effective instructional techniques, adult learning theories, program goals and objectives, course goals and objectives, Individualized Educational Plans and program policies and procedures. To conduct, throughout the project, ongoing assessments and evaluations of all instructors.

Accomplishments:

All aspect of Objective #1 were met. Although, it was difficult to get all the qualified staff on board in accordance to the projected timeline. This was largely due to the grant being awarded a month before the College was notified.

Observations:

It is difficult to find instructors who have both experience with teaching adults and are capable of developing and delivering customized, job-specific instructional materials. A crucial characteristic of a successful instructor in a workplace setting is the ability and willingness of that instructor to be flexible and creative. Traditional instructors who can operate only within the confines of how and what they've always taught, even in Adult Education, have a difficult time relating to the varying skill levels of their students as well as the necessity of teaching more than one subject area.

Objective #2

To conduct and complete comprehensive needs assessments to verify the workers who require basic skills training and to verify the specific job related basic skills required for each participant to most effectively perform his/her job and become more productive. To develop competencies (based on the needs assessments) for each identified skill.

Accomplishments:

- All aspects of Objective #2 were met on schedule.

Observations:

A taxonomy was used to help guide us through the Needs Assessment Process. This helped us to ascertain what Math, Reading and Writing Skills were needed in the mill at Georgetown Steel Corporation. The following are examples of questions that we asked:

Examples of Reading Questions:

In you Department do you...
1. Read Signs (such as Caution, Flammable, etc.)?
2. Read Forms (such as Work Orders, Job Orders, Purchase Orders, Sales Slips etc.)?
3. Read Manuals and Reference books?

Examples of Math Questions:

In your Department do you...
1. Read Whole Numbers?
2. Write Whole Numbers given their work names?
3. Arrange Whole Numbers in order?

Numerous visits were made to different departments within the Steel Mill. At each department, we went through the Taxonomy and asked how they used Math, Reading and Writing Skills, to give us examples of how those skills were used and copies of any frequently used forms for which those particular skills were needed. Not only did the Needs Assessment provide us with valuable information on basic skills that are necessary in the Steel Mill, it gave the employees the opportunity to be involved in the development of the New Horizons Project. This led to increased interest on the part of the employees to participate in the resulting New Horizons classes.

We found that it was crucial to have someone on the Needs Assessment Team who knows the plant and its processes. This person provided a crucial link by interpreting for both the Needs Assessment Team (academic questions made relevant to the mill workers) and the employees in the mill(providing mill answers that were relevant to the academic questions). Even taking precautions to make sure everyone is "speaking the same language" during the Needs Assessment Process, misinterpretations are still a potential problem. For example, during the Needs Assessment, we were told by numerous departments that their employees needed to read and understand whole numbers. As educators, we interpreted

this to mean that place value was an important concept that needed to be mastered. Later, we discovered that whole numbers in the mill were treated more as identifiers like a Social Security Number or a Drivers License Number.

Objective #3

To write measurable performance objectives. To develop course measurable objectives.

Accomplishments:

All aspects of Objective #3 were met.

Objective #4

To develop course objectives and course outlines. To design course content to reflect the competencies and skills taught. To develop job related curriculum materials, based on the Literacy Task Analysis, that enhance adult learning and which are designed to meet the stated competencies and performance objectives.

Accomplishments:

All aspect of Objective #4 were met. However, the time constraints of the grant made it extremely difficult to create, adapt and finalize curriculum materials for five subjects.

Observations:

Materials and information we collected during the Needs Assessment provided the framework for the development of the job related curriculum for Math, Reading, Writing, Problem Solving and Time Management Classes.

Overall, having instructors who had little experience with writing curriculum proved to be a challenge. The development of curriculum would likely have been a smoother process had there been a curriculum specialists who relied on the instructors only to provide feedback about the usability of the curriculum in the classroom.

Objective #5

To develop a written Individualized Educational Plan (IEP) for each participant. The IEPs will be negotiated and developed by the participants and the instructors.

Accomplishments:

All aspects of Objective #5 were met.

Observations:

IEPs were used for the Math, Reading, and Writing Classes. They were a useful tool in guiding the employee through these classes by specifying which course objectives they would work on. These course objectives were identified based on what each student had missed on his/her pre-test.

Objective #6

To conduct basic skills training for at least 484 Georgetown Steel Employees during the project period. To offer classes and instruction in: Math, Reading, Writing, Problem Solving and Decision Making, and Time Management. To offer a program option of one-on-one tutoring for those with no, or extremely low reading skills. To provide high school completion/GED preparation classes and training to all who desire, or need, to reach this educational level. To provide class schedules and class sizes which will meet the needs of all participants and enhance learning. To provide an opportunity for every participant to achieve his/her basis skills.

Accomplishments:

All aspects of Objective #6 were met.

Observations:

Instruction was provided for 454 employees of Georgetown Steel. The main factors contributing to the project serving 30 fewer employees than projected were: 1). Classes had an average of 6 - 8 students as opposed to the 12 - 15 projected. This was due to physical constraints of the classroom and the fact that the instructors could offer more one-on-one type instruction when the class size was smaller. 2). With the smaller class size and classes offered on an open-ended basis, there was often a long wait before there was available space for a new student to start a class. All things considered, New Horizons did provide classes for more than half of the employees of Georgetown Steel during the restricted time frame of the Workplace Literacy Grant Funding.

Pre-tests for Math, Reading, and Writing were given to those students who scored roughly at a 4th grade level and higher on the Bader Reading Inventory. Students who scored below the 4th grade level were placed in a class for emergent readers. This class was conducted in a small group setting.

At the beginning of the project, all of the Math and Reading students were placed in a class and worked on whatever objectives they had missed on their pre-test. We saw a trend of very high pre-test scores and equal or lower post-test scores. Consequently, we decided that anyone scoring 85% or higher would be

considered passing and would not take part in the classes (The exception was that all of the reading students did the vocabulary and dictionary skills portion of the curriculum).

In retrospect, those of us who were involved with the grant felt that more closed end, modular type training would have worked better within the environment of the mill. That way, students could begin and end classes at a prescribed rate which would tend to interfere less with work schedules and production. This would have been particularly relevant to the Math and Reading Classes where a student could have felt more of a sense of accomplishment in a shorter period of time.

Objective #7

To conduct a comprehensive evaluation of trainee outcomes as well as an evaluation of the training program.

Accomplishments:

All aspects of Objective #7 were met.

Observations:

Trainee evaluation was done through pre and post testing as well as through interviews with participants and their supervisors. Pre to post-test gains in Reading , Math and Writing were significant at 22%, 39% and 14% respectively. The customized pre and post-tests were a highlight of the program. Not only did they show significant increases in skill, they were found, through statistical review, to be valid and reliable instruments.

Survey responses from the employees reflected higher achievement of goals with regard to increases in communication and production than shown by the responses of the supervisors. However, both showed that positive improvement had been made in both areas.

For additional information, refer to the New Horizons External Evaluation Impact Study by our third party evaluator, Dr. John Gretes.

Objective #8

To develop and implement a multifaceted media campaign to promote the project and inform the community about the benefits of the program. The Project Director will generate a quarterly report which will be submitted to key project personnel. Appropriate information included in the report will be made available for press releases and public service announcements. Upon completion of the project, the Director will: 1). submit a Final Report to the United States

Department of Education; 2). hold a news conference summarizing the project and its benefits; 3). submit at least three articles to three journals with national circulations; 4). hold a conference open to the public, other agencies, corporations and institutions, and 5). disseminate a summary of the project and copies of published articles to the South Carolina Work Force Initiative Program Specialists.

Accomplishments:

All aspects of Objective #8 have been met except for writing and submitting articles. It was felt that more effective articles could be written once the final evaluation for the project was completed.

Observations:

Dissemination was a large part of the New Horizons project. A video was produced and successfully used to both recruit students and give visitors a comprehensive overview of the training project. Presentations about New Horizons were made at a Workforce Education Conferences in Minnesota and Wisconsin, a South Carolina Developmental Education Conference and a Conference for Community College Trustees in Toronto, Canada. In addition, New Horizons was visited by several groups from different educational institutions and various industry. These groups came from South Carolina, Florida, Georgia, Connecticut, North Carolina, Pennsylvania and South Africa.

Changes in Key Personnel:

The only change made in Key Personnel was the replacement of our first project evaluator who became ill and was unable to fulfill his commitment.

"NEW HORIZONS" EXTERNAL EVALUATION IMPACT STUDY

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INTRODUCTION

The project impact study is based on the External Evaluation Plan (revised November 26, 1993). The first seven pages of this document provide an overview of that plan. The remaining sections of this document provide the Project Impact Study results. The Impact Study results address each of the four areas defined by the External Evaluation Plan. These areas include, (1) Reaction, "Reaction" involves the instructor and participant reactions to aspects of the program. It answers the question, "How well did participants like the program?", (2) Learning, "Learning, involves analysis of gains made by participants in knowledge and skills taught in the program courses.", (3) Behaviors, "Behavior, involves changes in participant behavior.", (4) Results, "Results, involve such factors as reduced turnover, reduced costs, improved efficiency, reduction in grievances, as well as increased quality and quantity of production, and improved morale". Each of these four areas are addressed and specific analysis questions are answered. A data analysis section provides information regarding the projects impact. Each of the four areas also includes a discussion/conclusions section which reviews the impact based on the data presented.

LEVELS OF EXTERNAL EVALUATION VARIABLES FOR THE IMPACT STUDY

OVERVIEW

The purpose of the external evaluation according to the project proposal (page 24), is to (1) review the overall plan of the project and recommend any changes at the beginning of the project period, (2) review the design and implementation of the internal evaluation and to assess the appropriateness of the evaluation procedures for determining the effectiveness of the project, (3) conduct an external evaluation to determine the effectiveness of the project in meeting its overall objectives, and (4) prepare a final report of the impact of the project on the participants and Georgetown Steel. In addition to the role description noted above, the external evaluator should provide suggestions and recommendations that will improve the overall project. The implementations of any recommendations and/or suggestions by the external evaluator are at the discretion of the Project Director and Staff.

The purpose of this external evaluation plan is to provide a systematic strategy for the collection and analysis of data to determine the impact of the project. The format for this evaluation will include four levels of evaluation. The first level, the "Reaction" involves the instructor and participant reactions to aspects of the program. It answers the question, "How well did participants like the program?"

The second level of evaluation, the "Learning" involves analysis of gains made by participants in knowledge and skills taught in the program courses. This is the academic achievement level of evaluation. For this project, pre and post test score comparisons provide information on achievement gains.

The third level of evaluation, the "Behavior" involves changes in participant behavior. A survey of supervisory personnel provided specific information regarding the number of employees from each department who participated in the program; the number of participants who improved their communication skills; the number who increased their productivity; the number who improved attendance records; and the number who improved self esteem after participating in the program. The modified supervisor survey was used to collect this data. Participants were also be interviewed to determine their perceptions of behavior changes.

The fourth level of evaluation, the "Results" involve such factors as reduced turnover, reduced costs, improved efficiency, reduction in grievances, as well as increased quality and quantity of production, and improved morale. Information provided by the Georgetown Steel Key Indicators was basis for the analysis of this level of evaluation.

The next section deals with the internal evaluation plan, data collection procedures, and analysis of data. The section which follows the internal evaluation plan addresses specific details for each of the levels of the external evaluation impact study.

THE INTERNAL EVALUATION

The internal evaluation process, described on pages 33-36 of the proposal was implemented as described in the "Review of the Internal Evaluation Plan". A copy of that description follows below.

REVIEW OF INTERNAL EVALUATION PLAN

INPUTS:
The internal evaluation plan (pages 33-36 of the Proposal) indicates the use of an Input, Process, and Output format for the evaluation of the project. The use of pre and post tests to measure literacy improvements in Reading and Mathematics are in place and the scores were used to validate any gains. The aggregation of item performance data could allow the project to compare overall scores on the tests as well as specific skill areas within the Math test such as whole numbers, fractions, percentages, or within the Reading test such as facts and details, finding information, following directions, and comprehension. The External Evaluation Plan provides the project with more detailed information on how to setup these data collection procedures.

In order to increase confidence in the validity and reliability of the Math and Reading tests, it is recommended that the external evaluator be provided with student performance data in order to extend the work already done by Dr. Finkle.

Mastery levels on the pre-tests should be set at 85% and information on those employees who master the content on the pre-test should be retained along with information on those who score below that level. The recommendation of 85% as a cutoff on the pre-tests is based on an examination of the test items and the Individual Education Plans (IEP's). It was agreed that if an employee could score better than 85% that the employee did not need to participate, but they could do so if they so chose.

According to the Proposal (pages 24 & 32) the project director should be given internal evaluation data from the Horry-Georgetown Director of Institutional Research and the Georgetown Steel Director of Industrial Relations. The partnership worked to set up a plan for the collection and analysis of internal evaluation data so that such information could be supplied to the project director providing the greatest utility possible. At this point in the project, the data collection needs to be standardized. The External Evaluation Plan will provide suggestions for such a data collection process.

PROCESS:

A listing of projected gains, benefits, and procedures was developed based on the information found in the proposal. This list was created by the Project Director and Dr. Finkle. This listing along with the Georgetown Steel Corporation Key Indicators and a review of the Project Objectives (see Appendix A of this document) provided the information needed to determine the process variable of the internal evaluation.

OUTPUTS:

The project proposal identifies benefits and anticipated gains as being (1) higher levels of literacy, (2) greater employee confidence and a higher level of self esteem, (3) improved productivity, (4) increased job security, (5) improved product quality, and (6) an improved workplace environment.

Higher levels of literacy were determined using the results of the Reading and Mathematics pre and post test comparisons. Greater employee confidence and a higher level of self esteem and increased job security were determined by an examination of the supervisor surveys and the number of project participants taking tests to seek higher pay jobs that require greater skills. Improved productivity and product quality were determined by an examination of the Georgetown Steel Key Indicators. This examination compared Key Indicators over the last three to four years to determine if during the project any of the Key Indicators improved. A survey of program graduates was designed to help determine if the project contributed to an improved workplace environment.

The following is a list of outcomes identified in the internal evaluation section of the project proposal. These outcomes are related to the Output perspective of the internal evaluation. The outcomes are all indicators specified as possible effects of the program courses.

Rolling Mill Department (proposal p.3 & 4)

Outcome = Fewer finished goods that require re-work prior to release and delivery.

Outcome = Less unscheduled down time and reduced equipment replacement costs.

Steelmaking Department (proposal p.3 & 4)

Outcome = Faster change-over time from shift to shift

Outcome = Improved delivery of steel to the next process step.

Outcome = Growth in team process.

Outcome = Increased "Job Ownership".

Steelmaking - Mobile Equipment and Utilities Maintenance (proposal p. 4)

Outcome = More efficient use of scheduled down time.

Outcome = Safer work practices resulting in fewer accidents.

Production, Planning, and Finishing Department (proposal p. 4)

Outcome = Lower transportation and shipping costs.

Outcome = Reduction of plant traffic.

Outcome = More timely delivery of finished goods.

Outcome = Costs associated with returned or damaged goods will be reduced.

Outcome = Customer satisfaction will improve.

Quality Assurance and D.R.I. Departments (proposal p. 4 & 5)

Outcome = More accurate ongoing evaluations will be possible.

Outcome = More timely information to affected departments.

Overall (proposal p. 5 & 6)

Outcome = Greater employee confidence.

Outcome = Higher level of self-esteem.

Outcome = Increased productivity.

Outcome = Improved product quality.

Outcome = Increased job security. .

Outcome = Improved workplace environment.

Information gathered by the internal evaluation must be provided on a timely basis to the external evaluator. The project staff will be responsible for supplying the external evaluator with the following data:

1. Pre and Post Reading test scores in the format described in Appendix A for the purpose of additional analysis of reliability.

2. Pre and Post Math test scores for the purpose of additional analysis of reliability.

3. All supervisor survey data (see Appendix A) The Revised New Horizons Quarterly Survey.

4. All participant survey data (see Appendix A) New Horizons Participant Survey.

5. All project data required for the Full Data Base Development Format (see Appendix A) for specific information.

6. Georgetown Steel Key Indicator data by quarter for the last three years - 1991, 1992, and 1993.

7. Information on participants completion of job tests - including participant information by name, clock number, department, test taken, indication of pass or no pass, and outcome as to any job changes.

8. Information on grievances filed by all employees over the last three to five years by quarter,those filed by New Horizons participants and the outcomes of each grievance.

9. Information on the outcomes listed on page 5 of this document.

EXTERNAL EVALUATION PLAN

The external evaluation will focus on two factors as defined by the program proposal. These factors include (1) a review of the program objectives - to determine the extent to which each objective has been met by the program, (2) an "impact" study to determine the effectiveness of the project.

The review of program objectives will include an analysis of each objective by the external evaluator and the development of a matrix. The matrix will include each objective, an indication of the degree to which that objective has been met, and the source of the data used to determine the effectiveness of the objective. Appendix A of this document contains an example matrix.

The "impact" study to determine the effectiveness of the project will address the following four levels of evaluation. Each level listed below is defined, questions to be answered by data analysis are presented, and a description of the data sources for each question is presented.

REACTION

a. Reaction Defined - "Reaction" involves the instructor and participant reactions to aspects of the program. It answers the question, "How well did participants like the program?"

b. Reaction Questions
   1. To what extent do participants and instructors feel that progress has been made toward academic goals?
   2. To what extent have participants achieved their own goals?

c. Reaction Data Sources: Results of the New Horizons Participant Survey included in the Full Data Base.

LEARNING

a. Learning Defined - "Learning" involves analysis of gains made by participants in knowledge and skills taught in the program courses

b. Learning Questions

1. To what extent have participants grown as readers?
2. To what extent have participants grown as writers?
3. To what extent have participants grown in mathematics skills?
4. What are instructor perceptions of program effectiveness?
5. To what extent do participants participate in establishing instructional goals and evaluating progress toward them?

c. Learning Data Sources: Pre and Post test scores for Reading, Mathematics and Writing included in the Full Data Base. Analysis of IEP's and feedback from New Horizons Participant Survey. Instructor Reactions to the Project Objectives Survey (found in the Site Visit Report dated June 26, 1993.

BEHAVIOR

a. Behavior Defined - "Behavior" involves changes in participant behavior. A survey of supervisory personnel will provide specific information regarding the number of employees from each department who have participated in the program; the number of participants who have improved their communication skills; the number who have increased their productivity; the number who have improved attendance records; and the number who have improved self esteem after participating in the program.

b. Behavior Questions

1. To what extent has participants self-confidence as readers increased?
2. To what extent has participants self-confidence as writers increased?
3. To what extent has participants self-confidence in mathematics skills increased?
4. Has participants self-esteem increased?

c. Behavior Data Sources: The revised New Horizons Quarterly Survey and specific items on the New Horizons Participant Survey

RESULTS

a. Results Defined - "Results" involve such factors as reduced turnover, reduced costs, improved efficiency, reduction in grievances, as well as increased quality and quantity of production, and improved morale.

b. Results Questions

1. To what extent has the participants earning power increased?
2. To what extent does the program show a return on the investment?

3. What is the rate of participation?
4. To what extent does the program meet needs identified by external groups such as community and or job supervisors?
5. What is the quality of recruitment and retention practices?
6. To what extent does the program show evidence of coordination or collaboration with outside agencies and constituencies?

c. Results Data Sources: Frequency of participant testing for new jobs within the company. Changes in the Georgetown Steel Key Indicators over a three year period by quarter. Project documentation and quarterly reports. Information tied to the 'Outcomes" listed on page 5 of this document.

PROJECT IMPACT
STUDY RESULTS

SOME BASIC DEMOGRAPHICS

During the grant funding period, 454 GSC employees completed the New Horizons training. Of the 747 GSC employees the 454 trained represent 60.8% of the total number employed.

Those involved in the training were from four different departments within GSC. The following identifies each of the departments, the number of total employees in each department, the number trained by the New Horizons project and the percentage in each department trained.

Department	Total # Employees	Number Trained	Percent Trained
Hourly			
Rolling Mill	177	129	72.8%
Steel Making	274	191	69.7%
Shipping	103	47	45.6%
DRI	60	26	43.3%
NON-Hourly			
Admin, Sales			
Engineering,			
MIS, etc.	133	61	45.8%
TOTAL	747	454	60.8%

Project participants had a wide range of education. The list below provides the highest grade completed by participants in grade ranges as well as the percent of those trained in each grade range group.

HIGHEST GRADE COMPLETED	NUMBER OF PARTICIPANTS	PERCENT
0 to 6 Years	25	5%
7 to 11 Years	79	18%
12 Years	185	42%
13 to 14 Years	88	20%
15 to 16 Years	54	10%
Above 16 Years	23	5%
TOTALS	**454**	**100%**

The following list identifies the involvement of participants in New Horizons classes.

CLASS	**# PARTICIPANTS**	**% OF TOTAL**
Math	56	12%
Reading	61	14%
Writing	13	3%
Time Mgt.	122	27%
Prob. Solving	202	44%
TOTALS	**454**	**100%**

REACTION:

To determine the reaction to the overall project, the two Reaction Questions were asked, and data was collected as indicated in the Reaction Data Sources below.

a. Reaction Defined - "Reaction" involves the instructor and participant reactions to aspects of the program. It answers the question, "How well did participants like the program?"

b. Reaction Questions
   1. To what extent do participants and instructors feel that progress has been made toward academic goals?
   2. To what extent have participants achieved their own goals?

c. Reaction Data Sources: Results of the New Horizons Participant Survey included in the Full Data Base.

REACTION DATA ANALYSIS:

The New Horizons Participant Survey was given to a random sample of 108 project participants. A copy of the twelve item survey form can be found in the Appendix of this document. Each of the items on the survey could be responded to by marking SA for Strongly Agree, A for Agree, U for Undecided, D for Disagree, or SD for Strongly Disagree. Results of the survey for each item are presented below.

	ITEM	PERCENT RESPONSE				
1	My communications skills have improved as a result of my involvement in the New Horizons program.	SA 20%	A 71%	U 7%	D 1%	SD 1%

In response to item #1, 91% of the participants either strongly agreed or agreed that the program had helped to improve their communication skills. About 7% were undecided, and 2% disagreed with the item.

2.	My productivity has increased as a result of my involvement in the New Horizons program.	SA 16%	A 61%	U 17%	D 3%	SD 3%

In response to item #2, 77% of the participants either strongly agreed or agreed that the program had helped to improve their productivity. About 17% were undecided, and 6% disagreed with the item.

3.	My attendance record has improved as a result of my involvement in the New Horizons program.	SA 19%	A 28%	U 16%	D 28%	SD 9%

In response to item #3, 47% of the participants either strongly agreed or agreed that the program had helped to improve their attendance. About 16% were undecided, and 37% disagreed with the item.(Based on Supervisor Survey data, attendance has never been a problem at GSC.)

4	My self esteem has improved after taking part in the New Horizons Program.	SA 25%	A 68%	U 5%	D 0%	SD 2%

In response to item #4, 93% of the participants either strongly agreed or agreed that the program had helped to improve their self esteem. About 5% were undecided, and 2% disagreed with the item.

		SA	A	U	D	SD
5.	I enjoyed the training classes.	39%	60%	0%	0%	1%

In response to item #5, 99% of the participants either strongly agreed or agreed that they had enjoyed their training classes. None were undecided, and 1% disagreed with the item.

		SA	A	U	D	SD
6.	I learned a lot from my instructor.	31%	66%	2%	0%	1%

In response to item #6, 97% of the participants either strongly agreed or agreed that they had learned a lot from their instructor. About 2% were undecided, and 1% disagreed with the item.

		SA	A	U	D	SD
7.	I reached the goals I set in my IEP.	13%	67%	11%	4%	5%

In response to item #7, 80% of the participants either strongly agreed or agreed that they had reached the goals they set in their IEP's. About 11% were undecided, and 9% disagreed with the item.

		SA	A	U	D	SD
8.	My New Horizons training has given me the self-confidence to take tests for jobs that pay more.	20%	60%	8%	7%	5%

In response to item #8, 80% of the participants either strongly agreed or agreed that the program had helped to improve their self-confidence. About 8% were undecided, and 12% disagreed with the item.

		SA	A	U	D	SD
9.	I liked the awards given when I completed my training.	23%	68%	5%	2%	2%

In response to item #9, 91% of the participants either strongly agreed or agreed that they liked the awards given when they completed their training. About 5% were undecided, and 4% disagreed with the item.

		SA	A	U	D	SD
10.	My New Horizons training has helped make me a better worker.	12%	76%	10%	1%	1%

In response to item #10, 88% of the participants either strongly agreed or agreed that the program had helped make them better workers. About 10% were undecided, and 2% disagreed with the item.

11.	Having my training during working hours was great for me. Better than if the training had been after work on my own time.	SA 34%	A 46%	U 8%	D 5%	SD 7%

In response to item #11, 80% of the participants either strongly agreed or agreed that having the training during working hours was better than having the training after working hours. About 8% were undecided, and 12% disagreed with the item.

12.	I have a better work environment because of my New Horizons training.	SA 13%	A 69%	U 14%	D 3%	SD 1%

In response to item #12, 82% of the participants either strongly agreed or agreed that the program had helped create a better work environment. About 14% were undecided, and 4% disagreed with the item.

* Charts of the Participant Survey results for each item can be found in the Appendix B of this document. (pages 41 to 52)

DISCUSSION/CONCLUSIONS - REACTION:

For all four departments involved in the training, high percentages of participation were reached. Overall more than 52% of GSC employees were involved in the training. Some 35% of the participants were involved in the Reading, Writing and Mathematics classes. The majority of those who had completed 12 years of schooling or less were involved in the Reading, Writing and Mathematics classes. About 70% of those involved in the training had 12 years or less of schooling.

In response to the Participant Survey, 91% reported that their communications skills had improved. They also reported increases (77%) in their productivity as result of being involved in the New Horizons project. Since attendance is very high at GSC item # 3 did not provide significant results although 47% agreed or strongly agreed with the item. Regarding increases in self-esteem, 93% reported increases. Many of these reactions seem to be validated by the Quarterly Survey results found in the Behavior section of this document.

Participant reactions to the training classes was very positive. Some 99% agreed or strongly agreed that they enjoyed the training classes. About 97% reported learning a lot from their instructors, and 80% felt that they had reached the goals set in their IEP's.

Many reported increases in self-confidence to take tests for better jobs (80%). This seems to be reflected in the actual increases in the number of participants taking tests for better jobs. Those numbers increased from 31 in 1991, to 54 in 1992, to 73 in 1993. In addition, the percentage of those who passed the tests increased from 55% in 1991, to 78% in 1993. More specific information regarding participants who took tests for better jobs can be found in the Results section of this document.

Participants liked the awards program that was part of the project (91%). They felt (88%) that they were better workers because of the New Horizons training. Many (80%) agreed or strongly agreed that "having the training during working hours was a positive aspect of the program. They felt that this was better than if the training had been after work or on their own time. They reported that their work environment was better because of the training (82%).

All indications are that at participants liked the program and thought it was very useful. This is confirmed by interviews with instructors. In answering the question "How well did participants like the program?", the answer is very well. According to the data collected in the Participant Survey, answers to the Reaction questions, (1.) To what extent do participants and instructors feel that progress has been made toward academic goals? and (2.) To what extent have participants achieved their own goals? seems to be to a great extent. Evidence supporting these conclusions is provided by responses to item #7 "I reached the goals I set in my IEP". In response to item #7, 80% of the participants either strongly agreed or agreed that the program had helped to improve their communication skills. About 11% were undecided, and 9% disagreed with the item.

Regarding the Reaction aspect of this evaluation, the conclusion is that participants liked the program very much and from that aspect the project was a resounding success.

LEARNING

a. Learning Defined - "Learning" involves analysis of gains made by participants in knowledge and skills taught in the program courses

b. Learning Questions

1. To what extent have participants grown as readers?
2. To what extent have participants grown as writers?
3. To what extent have participants grown in mathematics skills?
4. What are instructor perceptions of program effectiveness?
5. To what extent do participants participate in establishing instructional goals and evaluating progress toward them?

c. Learning Data Sources: Pre and Post test scores for Reading, Mathematics and Writing included in the Full Data Base. Analysis of IEP's and feedback from New Horizons Participant Survey. Instructor Reactions to the Project Objectives Survey (found in the Site Visit Report dated June 26, 1993).

LEARNING DATA ANALYSIS:

Many of the New Horizons Participants were involved in Reading, Mathematics, and Writing classes. In order to answer the learning questions stated above, participants were given pre and post tests in reading, mathematics, and writing. The development and validation of these tests is described in the other project documents. The following is an overview of the reliability study data for the both the Reading and the Mathematics tests. The validity study is discussed in the Site Visit Report for September 9th & 10th, 1993.

ALPHA TEST OF INTERNAL CONSISTENCY FOR GSC READING PRE-TEST
R E L I A B I L I T Y A N A L Y S I S - S C A L E (A L P H A)
Reliability Coefficients
N of Cases = 50.0 N of Items = 47
Alpha = 8821

ALPHA TEST OF INTERNAL CONSISTENCY FOR THE GSC MATH PRE-TEST
R E L I A B I L I T Y A N A L Y S I S - S C A L E (A L P H A)
Reliability Coefficients
N of Cases = 43.0 N of Items = 46
Alpha = .8879

What follows is an analysis of pre and post test comparisons for each of the three areas of training.

MATHEMATICS PRE AND POST TESTS:

Analysis Question = To what extent have participants grown in mathematics skills?
This question was answered by conducting a pre to post test comparison with a paired groups t-test. The t-test was used to determine if there were significant differences between the mean pre and post test scores. This analysis was conducted using 57 of the participants.

Pre-Test Mean Score	58.98
Post-Test Mean Score	82.21
Mean Difference(Gain)	23.23
t-value	12.28
Degrees of Freedom	56
2-tail Significance	p.>.0001

The total score gain based on the pre test score was 23.23 points or a 39.4 % increase from the pre to the post test.

READING PRE AND POST TESTS:

Analysis Question = To what extent have participants grown in reading skills?
This question was answered by conducting a pre to post test comparison with a paired groups t-test. The t-test was used to determine if there were significant differences between the mean pre and post test scores. This analysis was conducted using 61 of the participants.

Pre-Test Mean Score	81.67
Post-Test Mean Score	89.36
Mean Difference(Gain)	7.69
t-value	5.67
Degrees of Freedom	60
2-tail Significance	p.>.0001

Given that several of those involved in the reading instruction had scored 85% or higher on the pre test, a second analysis was conducted where participants with pre test scores at 85% and above were removed. This analysis was conducted using 28 of the participants. The results of this analysis are listed below.

Pre-Test Mean Score	69.17
Post-Test Mean Score	84.57
Mean Difference(Gain)	15.40
t-value	7.46
Degrees of Freedom	27
2-tail Significance	p.>.0001

The total score gain based on the pre test score was 15.40 points or a 22.3 % increase from the pre to the post test.

WRITING PRE AND POST TESTS:

Analysis Question = To what extent have participants grown in writing skills?
This question was answered by conducting a pre to post test comparison with a paired groups t-test. The t-test was used to determine if there were significant differences between the mean pre and post test scores. This analysis was conducted using 19 of the participants.

Pre-Test Mean Score	58.05
Post-Test Mean Score	66.52
Mean Difference(Gain)	8.47
t-value	4.39
Degrees of Freedom	18
2-tail Significance	p.>.0001

The total score gain based on the pre test score was 8.47 points or a 14.6 % increase from the pre to the post test.
* Charts of the Math, Reading and Writing results be found in the Appendix B of this document. (pages 53 to 56)

INSTRUCTOR AND STAFF PERCEPTIONS OF PROGRAM EFFECTIVENESS:

Analysis Question = What were staff perceptions of program effectiveness?
To determine, "What were staff perceptions of program effectiveness?" six of the project staff members including administrators and instructors were asked to complete the Project Objectives Survey. The purpose of the survey was to determine the degree to which project objectives had been met. The results of this survey are presented below.

MET? KEY

MET	=	OBJECTIVE MET IN FULL OR FOR SPECIFIC PROJECT COMPONENTS AT THE TIME OF THIS REPORT.
IP	=	IN PROGRESS - ON GOING AND WHERE EXPECTED AT THIS POINT IN TIME
NM	=	NOT MET

SOURCE OF DATA KEY

PR	=	Participant Records
QR	=	Project Quarterly Reports
PI	=	Participant Interviews
SI	=	Staff Interviews
SR	=	Participant Survey Results
POS	=	Project Objective Survey
IMR	=	Project Materials Review (Instructional Materials)
SVR	=	Site Visit Reports

No.	Objective	Met?	Source of Data
1.1	To identify and select instructors who have a successful background in Adult Education and job-related workplace training.	MET	PR, SI, QR, POS
1.2	To conduct training and orientation sessions for all instructors, which will: review effective instructional techniques, adult learning theories, program goals and objectives, course goals and objectives, Individualized Educational Plans and program policies and procedures.	MET	PR, SI, POS
1.3	To conduct, throughout the project, ongoing assessments and evaluations of all instructors.	MET	PR, SI, QR, POS,SVR
2.1	To conduct and complete comprehensive needs assessments to verify the workers who require basic skills training and to verify the specific job related basic skills required for each participant to most effectively perform his/her job and become more productive.	MET	IMR, PR, PI, SI, POS
2.2	To develop competencies (based on the needs assessments) for each identified skill.	MET	IMR, SI, POS
3.1	To write measurable performance objectives.	MET	IMR, SI, POS, SVR
3.2	To develop course measurable objectives .	MET	IMR, SI, POS, SR
4.1	To develop course objectives and course outlines.	MET	IMR, SI, POS, SVR
4.2	To design course content to reflect the competencies and skills taught.	MET	IMR, QR, SI, POS
4.3	To develop job related curriculum materials, based on the Literacy Task Analysis, that enhance adult learning and which are designed to meet the stated competencies and performance objectives.	MET	IMR, SVR, SI, POS
5.1	To develop a written Individualized Educational Plan for each participant. The Individualized Educational Plans will be negotiated and developed by the participants and the instructors.	MET	PR, IMR, SR, POS

6.1	To conduct basic skills training for at least 484 Georgetown Steel employees during the project period.	MET	PR, QR, POS
6.2	To offer classes and instruction in: Math and Reading, Writing, Problem Solving and Decision Making , and Time Management .	MET	IMR, QR, SI, SR, POS
6.3	To offer a program option of one-on-one tutoring for those with no, or extremely low, reading skills.	MET	IMR, PR, SI, POS
6.4	To provide high school completion/GED preparation classes and training to all who desire, or need, to reach this educational level.	MET	PR, SI, POS
6.5	To provide class schedules and class sizes which will meet the needs of all participants and enhance learning. Class sizes will be 12-15 students per class. Classes will be offered Monday through Friday. Four class sessions will be offered each day: 7:00 a.m. - 9:00 a.m., 9:00 a.m. - 11:00, 1:00 p.m. - 3:00 p.m. and 3:00 p.m. - 5:00 p.m. Two classes of 12-15 students per class will be held during each two-hour session. Because workers work on a regular schedule of rotating shifts, these sessions will accommodate the needs of all participants.	MET	PR, SI, POS, IMR, SR
6.6	To provide an opportunity for every participant to achieve his/her basic skills improvement goals. Each participant will be scheduled two hours per day (ten hours per week) until the competency level objectives defined in the Individualized Educational Plan have been attained. The hours of training completed by each worker may range from 30 hours to 100+ hours depending upon the basic skills competencies needed. As participants attain their competencies, others will be scheduled for training.	MET	IMR, SI, POS, SR, PR

7.1	To conduct a comprehensive evaluation of trainee outcomes as well as an evaluation of the training program.	MET	QR, SVR, PR, POS
8.1	To develop and implement a multifaceted media campaign to promote the project and inform the community about the benefits of the program.	MET	QR, SI, POS
8.2	The Project Director will generate a quarterly report which will be submitted to key project personnel. Appropriate information included in the report will be made available for press releases and public service announcements.	MET	QR, PR, POS
8.3	Upon completion of the first year, at least two articles will be submitted to journals in the fields of Adult Education and Industrial Management. Articles will describe the project and include information beneficial to other corporations and colleges considering similar relationships.	IP	SI, POS
8.4	Upon completion of the project, the Director will: (1) submit a Final Report to the U.S.D. of E., (2) hold a news conference summarizing the project and its benefits, (3) submit at least three articles to three journals with national circulations, (4) hold a conference open to the public, other agencies, corporations and institutions, and (5) disseminate a summary of the project and copies of published articles to the South Carolina Work Force Initiative Program Specialists.	IP	SI, POS

PARTICIPANT INVOLVEMENT IN ESTABLISHING GOALS AND EVALUATING PROGRESS TOWARD THOSE GOALS:

Analysis Question = To what extent do participants participate in establishing instructional goals and evaluating progress toward them?
To determine, "To what extent do participants participate in establishing instructional goals and evaluating progress toward them?", Program participants were surveyed after they completed the training. Specific items from the Participant Survey Part II address this question. The results of this survey are presented below.

For each of the items on the second part of the Participant Survey that relate to this Analysis Question, the percentage of response is given to each item option. The analysis results are listed below by item. This survey was completed by the participants who were involved in the training.

1. What did you hope to achieve by taking classes from the New Horizons Program?

	% After Training
a. To upgrade my skills	27%
b. Self improvement	22%
c. Other Please explain below..... (For Example, Learn more, get a better job, etc.)	51%

2. Did the program meet your goals from number 1 above?

	% After Training
a. Yes	78%
b. No	5%
c. Yes and No Please explain below.... (For Example, Both, for the most part, almost all, etc.)	17%

DISCUSSION/CONCLUSIONS - LEARNING:

A great deal of effort during the early phases of the project went into the development and validation of the Mathematics, Reading and Writing classes and assessment instruments to measure student growth from pre to posttest. This effort did pay off for the project. Instrument validation studies indicate that the assessment instruments used were both valid and reliable. Specific analysis of the reliability of the reading and mathematics instruments yielded internal consistency for both instruments at .88 or higher (see Alpha Test information Page 13 above). Validity was determined using the development process and one-to-one correspondence between objectives and the study conducted by the internal evaluator. Reliability of the writing assessment was determined by comparisons of the raters and the validity was determined based on a one-to-one match to provide some evidence of face and content validity.

Learning involves analysis of gains made by participants in knowledge and skills taught in the program courses. The questions for the Learning aspect of the evaluation were (1) To what extent have participants grown as readers?, (2) To what extent have participants grown as writers?, (3) To what extent have participants grown in mathematics skills?, (4) What are instructor perceptions of program effectiveness?, (5) To what extent do participants participate in establishing instructional goals and evaluating progress toward them?. The Learning Data Sources were: Pre and Posttest scores for Reading, Mathematics and Writing, as well as analysis of IEP's, feedback from New Horizons Participant Survey, and instructor/staff reactions to the Project Objectives Survey.

Gains made by participants in Math as measured by pre and posttest comparisons were statistically significant. The mean gain was 23.23 points yielding a t-value of 12.28, where $p < .0001$. In Reading gains by participants were measured by pre and posttest comparisons and were found to be statistically significant. The mean gain was 15.40 points yielding a t-value of 7.46, where $p < .0001$. For the Writing gains, pre and posttest comparisons were found to be statistically significant. The mean gain was 4.39 points yielding a t-value of 4.47, where $p < .0001$. The answer to the first three Learning Questions is that statistically significant gains were made by participants in Math, Reading and Writing.

Instructor/staff perceptions of program effectiveness were measured by responses to the Project Objective Survey. Six staff members responded and the results (found above) indicate that the project has met 20 of the 22 program objectives. The two objectives not yet met are in progress toward being met and can only be satisfied after the project is completed. For each project objective, sources of data are identified and the objectives are marked MET, NOT-MET or IP for In Progress. According the responses to the Project Objective Survey, and an analysis of identified data sources, the answer to question #4 "What are instructor perceptions of program effectiveness?" is that the instructors and staff felt that the program was very effective. Regarding Learning Question #5, "To what extent do participants participate in establishing instructional goals and evaluating progress toward them?", the answer based on an analysis of participant records is that participant were highly involved. In addition participant reactions to the Participant Survey, item #7 indicate that they agreed, (80%) or strongly agreed that they reached the goals they set in their IEP's.

Overall, the analysis of the learning aspect of the evaluation provides evidence that significant increases in Reading, Math, and Writing were achieved by participants. These gains were documented using pre and posttest comparisons and a t-test to determine significant differences of the gains. In addition, the Survey responses by staff and participants indicate project objectives were met and participants did achieve goals set in their IEP's.

BEHAVIOR

a. Behavior Defined - "Behavior" involves changes in participant behavior. A survey of supervisory personnel will provide specific information regarding the number of employees from each department who have participated in the program; the number of participants who have improved their communication skills; the number who have increased their productivity; the number who have improved attendance records; and the number who have improved self esteem after participating in the program.

b. Behavior Questions
   1. To what extent has participants self-confidence as readers increased?
   2. To what extent has participants self-confidence as writers increased?
   3. To what extent has participants self-confidence in mathematics skills increased?
   4. Has participants self-esteem increased?

c. Behavior Data Sources: The revised New Horizons Quarterly Survey and specific items on the New Horizons Participant Survey

BEHAVIOR DATA ANALYSIS:

SUPERVISORS

To determine the impact of participant behavior changes related to the training, two sources of information ware used. First, supervisors were interviewed each quarter of the project and asked questions found on the New Horizons Quarterly Survey (see Appendix of this document for a copy of the survey). Second, specific items were included on the Participant Survey to determine answers to the following Analysis Questions:

1. How many participants have improved their communications skills?

2. How many participants have increased their productivity?

3. How many participants have improved attendance records?

4. How many participants do you feel have improved self esteem after participating in the New Horizons Program ?

Taken one at a time, the supervisor responses to these questions provide evidence of the numbers and percentages of participants whose behaviors changed on the job.

For question #1, "How many participants have improved their communications skills? "

Supervisor interviews indicated that overall, 56% of their employees who had completed the training had improved communication skills. The supervisors mentioned the following indicators most frequently, as examples of increased communication skills by program participant.

- "Can report information from the field better..."
- "More open than they were before - working better with the supervisor"
- "They ask more questions..."
- "More interaction with other employees from other departments and seem to communicate more with each other about work in the department..."

For question #2, "How many participants have increased their productivity? "

Supervisor interviews indicated that overall, 47% of their employees who had completed the training had improved productivity. The supervisors mentioned most frequently the following indicators as examples of increased productivity they could see changes in on the job.

- "Take more responsibility and start more projects on their own..."
- "Being in the classes has made them be more aware of their jobs..."
- "Improved ability to do work more efficiently..."
- "Faster change over from shift to shift..."
- "The team is working more smoothly than before..."

For question #3, "How many participants have improved attendance records?"

Supervisor interviews indicated that overall, their employees attendance records were already very good. They did not see any marked change in attendance.

This information from the supervisors would seem to be reflected in the responses of the participants to the survey. Note the percentages of response to the following survey question:

For question #4, "How many participants do you feel have improved self esteem after participating in the New Horizons Program ?"

Supervisor interviews indicated that overall, 70% of their employees who had completed the training had improved self esteem. The supervisors mentioned most frequently the following indicators as examples of increased self esteem they could see changes in on the job.

- "They are more responsible and take more pride in their work"
- "They start more work related discussions with co-workers"
- "They are more open to discuss department operations in general"
- "Contribute to the team more than before..."

PARTICIPANTS

This information from the supervisors would seem to be reflected in the responses of the participants to the survey. Note the percentages of response to the following survey question:

To answer the following Analysis Questions, data was collected from several sources. First, the improved test results for reading, math, and writing would provide some indication that participants have become better learners. Responses to Participant Survey also provide some indication of their self-confidence and self-esteem.

1. To what extent has participants self-confidence as readers increased?
2. To what extent has participants self-confidence as writers increased?
3. To what extent has participants self-confidence in mathematics skills increased?
4. Has participants self-esteem increased?

Participant Survey Item	**Percent of Response**				
	SA	A	U	D	SD
1. My communications skills have improved as a result of my involvement in the New Horizons program.	20%	71%	7%	1%	1%

In response to item #1, 91% of the participants either strongly agreed or agreed that the program had helped to improve their communication skills. About 7% were undecided, and 2% disagreed with the item.

	SA	A	U	D	SD
2. My productivity has increased as a result of my involvement in the New Horizons program.	16%	61%	17%	3%	3%

In response to item #2, 77% of the participants either strongly agreed or agreed that the program had helped to improve their produtivity. About 17% were undecided, and 6% disagreed with the item.

	SA	A	U	D	SD
4. My self esteem has improved after taking part in the New Horizons Program.	25%	68%	5%	0%	2%

In response to item #4, 93% of the participants either strongly agreed or agreed that the program had helped to improve their self esteem. About 5% were undecided, and 2% disagreed with the item.

DISCUSSION/CONCLUSIONS - BEHAVIOR:

To determine behavior changes of participants, interviews with supervisors were conducted. The basis for the interviews was the Quarterly Survey Form. Each quarter, the staff used the form to help them interview supervisors from each of the four GSC departments. Each supervisor interviewed had employees who were involved in the training. (see Appendix A for a copy of the form used.)

The idea behind the interviews was to determine changes in participant behavior on the job. The information previously presented indicates focus on four questions asked during the interviews. Overall, the supervisors reported about 56% of the participants had improved their communication skills and the supervisors were able to point out specific indicators demonstrated by participants. They also reported about 47% of the participants had increased productivity. Related to improved self-esteem, the supervisors reported that about 70% having improved self-esteem. Attendance was not seen as a problem by the participants or the supervisors.

The comparison of participant responses to those of the supervisors shows that in fact both groups saw improvements in three of the four areas. For increases in communication skills, the supervisors reported 56%, while the participants reported 91%. In the area of productivity, the supervisors reported 47% while the participants reported 77%. For improvements in self-esteem, the supervisors reported 70% while the participants reported 93%. Although one would not expect these figures to agree 100%, the high positive direction of the estimates does suggest that changes of a positive nature did, in fact, take place. One of the important conclusions involves the fact that supervisors were able to describe specific behaviors that they saw as indicators of change. These indicators could be refined and used in the future to help determine behavior changes that are related to the training.

There is positive evidence to support the proposition the positive behaviors see in the work place were influenced by the New Horizons training.

RESULTS:

a. Results Defined - "Results" involve such factors as reduced turnover, reduced costs, improved efficiency, reduction in grievances, as well as increased quality and quantity of production, and improved morale.

b. Results Questions

1. Is there greater employee confidence?
2. Do participants exhibit higher levels of self-esteem ?
3. Is there increased productivity ?
4. Has product quality improved ?
5. Do employees have increased job security ?
6. Has the workplace environment improved ?
7. Has safety improved ?
8. Has there been a reduction in grievences ?

c. Results Data Sources: Frequency of participant testing for new jobs within the company. Changes in the Georgetown Steel Key Indicators over a three year period by quarter. Project documentation and quarterly reports. Information tied to the 'Outcomes" listed on page 5 of this document.

RESULTS DATA ANALYSIS:

To determine the impact of project results related to the training, several sources of information ware used. First, changes in Georgetown Steel Key Indicators over a three year period were examined. These Key Indicators are related to the outcomes listed in the project proposal and reproduced below. Second, the frequency of participant testing for new jobs over the past three to four years.

RESULTS ANALYSIS QUESTIONS:

OVERALL:

According to the project proposal (proposal p. 5 & 6), overall desired results of the project included the following outcomes:

1. Greater employee confidence.
2. Higher level of self-esteem.
3. Increased productivity.
4. Improved product quality.
5. Increased job security.
6. Improved workplace environment.
7. Improved Safety
8. Reduction in Grievences

OUTCOME #1 - Greater Employee Confidence

This outcome was measured by item #10 from the Participant Survey

	SA	A	U	D	SD
My New Horizons training has helped make me a better worker.	12%	76%	10%	1%	1%

88% of the participants either strongly agreed or agreed that the program had helped to make them better workers. About 10% were undecided, and 2% disagreed with the item.

OUTCOME #2 - Higher levels of self-esteem.

This outcome was measured by responses to the Participant Survey and Supervisor responses to the Quarterly Survey.

Participant Survey

	SA	A	U	D	SD
My self esteem has improved after taking part in the New Horizons Program.	25%	68%	5%	0%	2%

93% of the participants either strongly agreed or agreed that the program had helped to improve their self esteem. About 5% were undecided, and 2% disagreed with the item.

Quarterly Survey - Supervisors

"How many participants do you feel have improved self esteem after participating in the New Horizons Program ?"

Supervisor interviews indicated that overall, 70% of their employees who had completed the training had improved self esteem.

OUTCOME #3 - Increased Productivity

This outcome was measured by responses to the Participant Survey, Quarterly Survey, and the GSC Key Indicators.

Participant Survey

	SA	A	U	D	SD
My productivity has increased as a result of my involvement in the New Horizons program.	16%	61%	17%	3%	3%

77% of the participants either strongly agreed or agreed that the program had helped to improve their productivity. About 17% were undecided, and 6% disagreed with the item.

Quarterly Survey - Supervisors

"How many participants have increased their productivity? "

Supervisor interviews indicated that overall, 47% of their employees who had completed the training had improved productivity.

OUTCOME #4 - Improved product quality.

This outcome was measured by GSC Key Indicator reporting Customer Claims for Quality in dollars over a three year period. In addition, Billets scrapped and Coils scrapped for quality reasons were also examined over a three year period.

GSC Key Indicators

The GSC Key Indicators listed below were identified in the project proposal as outcomes that were defined as indicators of productivity.

	YEAR			% Increase or
INDICATOR	**1991**	**1992**	**1993**	**Reduction**
Melt Shop Production Rate (tph)	51.7	55.5	58.4	+13%
Rolling Mill Production Rate (tph)	91.0	87.9	93.6	+3%
Melt Shop % Maintenance Delay	3.63	3.37	3.22	-11%
Rolling Mill % Maintenance Delay	5.52	3.70	4.75	-14%

GSC Key Indicators

		YEAR		
INDICATOR	**1991**	**1992**	**1993**	**%Reduction**
Customer Claims for Quality in dollars	$856,269	$581,604	$242,283	72%
Coils Scrapped for Quality Reasons(%)	1.2	2.0	1.0	17%

OUTCOME #5 - Increased job security.

This outcome was measured by frequency of participant testing for better jobs within GSC. The information below describes the number of tests taken to qualify for better jobs within GSC by participants of the New Horizons Project from 1991 through 1993. In addition to the number of tests taken, the number passed and failed as well as the percentage passed and failed is presented.

YEAR	# TESTS TAKEN	#FAILED	#PASSED	%PASSED	%FAILED
1991	31	14	17	55%	45%
1992	54	6	48	89%	11%
1993	73	16	57	78%	22%

Percent increase 1991 to 1993 = 135%

OUTCOME #6 - Improved workplace environment.

This outcome was measured by responses to the Participant Survey item #12.

Participant Survey

I have a better work environment because of my New Horizons training.	SA	A	U	D	SD
	13%	69%	14%	3%	1%

82% of the participants either strongly agreed or agreed that the program had helped to improve their work environment. About 14% were undecided, and 4% disagreed with the item.

OUTCOME #7 Improved Safety

Other specific outcomes related to the Results aspect of the data analysis include: OUTCOME #7 - Safer work practices resulting in fewer accidents. This outcome can be verified through an analysis of the following GSC Key Indicators.

	YEAR			
INDICATOR	1991	1992	1993	%Reduction Over 1991
Lost Time Accidents	33	7	6	82%
Compensibles	134	106	120	11%

OUTCOME #8 Reduced Grievences

Another outcome related to the Results aspect of the evaluation is the number of grievances filed by employees over a three to four year period. The assumption here is that if employees gain improved communication skills, that an increased number of problems will be resolved before they reach the grievance level. This would also be related to an improved workplace environment. The information below represents the number of grievances filed during the last nine years.

Number of Grievances Filed								
1985	1986	1987	1988	1989	1990	1991	1992	1993
152	106	108	97	105	129	60	25	55

The pattern of grievances presents an interesting question. Has involvement in the New Horizons project and increased communication skills helped to reduce grievances? During the project years, the number of grievances was reduced by 57% in 1993 when compared to 1990, and by 81% in 1992 when compared to 1990. There was also a reduction in 1991, but that was not a project year. The overall trend from 1985 to 1990 averaged 116 grievances, while the trend from 1991 to 1993 averaged 47 grievances. Another interesting fact is that the projected number of grievances for 1994 is 22. That is based on the 11 grievances filed through June

of 1994. The assumption here is that responses from the supervisors and the participants would indicate that the increased levels of communication have influenced the reduction of documented grievances filed.

DISCUSSION/CONCLUSIONS - RESULTS:

Analysis of the data related to the Results aspect of the project evaluation indicates that participants as well as supervisors reported increases in employee confidence, higher levels of self-esteem, and increased productivity. Regarding productivity, specific GSC Key indicators reflect a reduction of 11% in maintenance delays for the Melt Shop and a reduction of 14% in maintenance delays for the Rolling Mill when comparisons are made between figures from 1991 and those for 1993. The Melt Shop increased their production 13% from 1991-1993 while the Rolling Mill increased their production 3% over the same period.

With respect to improved product quality, customer claims for quality (in dollars) saw a 72% reduction from 1991 to 1993. The percentage of coils scrapped for quality reasons was reduced by 17%.

One indication of "job security" used by the project was the number of tests taken by participants to qualify them for better jobs (higher paying). From 1991 to 1993 there was a 135% increase in the number of tests taken by participants to qualify for better jobs. In addition to this dramatic increase, in the number of tests taken, the passing rate increased from 55% in 1991 to 78% in 1993. This information taken with the fact that the number of tests taken by Non-Participants remained about the same over the three year period according the records provided by the GSC office of personnel, provides support for the idea that the training influence increased participant willingness to take the tests and that the passing rate increased.

GSC Key Indicators related to safety include the number of lost time accidents and the number of compensible accidents. An analysis of these figures yields an 82% reduction in lost time accidents over the period 1991 to 1993, and an 11% reduction in the number of compensible accidents over the same time period.

Impact related to the Results aspect of the evaluation seems to show clear trends of change for the better. Since it is virtually impossible to draw cause and effect relationships between the training and overall steel production, it is important to examine the trend of key indicators. One safeguard in this area of evaluation to protect for over generalization is to document that for the areas of GSC where project participants work that no new equipment has been installed that would impact some of the variables examined. In addition it is important to document that no drastic changes in plant process have been implemented by management during this time period. Information gained from MIS suggests that none of these changes have been instituted during the period of evaluation. Changes that are instituted by teams on the mill floor however, are acceptable. Given the fact that the project

trained some 53% of the GSC work force, these Results are even more powerful.

There is no doubt that there has been greater employee confidence, a higher level of self-esteem among participants, increased productivity, improved product quality, a feeling of increased job security among participants, perception of improved workplace environment, improved safety, and a reduction in grievances filed during the project period as measured by the outcomes and indicators identified in the project proposal. All of these facts indicate a very high level of project success. In addition, the impact of the project on GSC has been very positive, with measureable improvements in attitude as well as productivity.

APPENDIX A: "FORMS"

Participant Survey Form
Analysis Matrix of Project Objectives
Full Data Base Development Format
New Horizons Quarterly Survey - (Supervisor)

NEW HORIZONS PARTICIPANT SURVEY

Name _____ Clock Number _____

Directions: Read each statement below and then circle "SA" if you Strongly Agree, "A" if you Agree, "U" if you are Undecided, "D" if you Disagree, or "SD" if you strongly Disagree with the statement. Please make sure to print your name and clock number in the space provided.

1.	My communications skills have improved as a result of my involvement in the New Horizons program.	SA	A	U	D	SD
2.	My productivity has increased as a result of my involvement in the New Horizons program.	SA	A	U	D	SD
3.	My attendance record has improved as a result of my involvement in the New Horizons program.	SA	A	U	D	SD
4.	My self esteem has improved after taking part in the New Horizons Program.	SA	A	U	D	SD
5.	I enjoyed the training classes.	SA	A	U	D	SD
6.	I learned a lot from my instructor.	SA	A	U	D	SD
7.	I reached the goals I set in my IEP.	SA	A	U	D	SD
8.	My New Horizons training has given me the self-confidence to take tests for jobs that pay more.	SA	A	U	D	SD
9.	I liked the awards given when I completed my training.	SA	A	U	D	SD
10.	My New Horizons training has helped make me a better worker.	SA	A	U	D	SD
11.	Having my training during working hours was great for me. Better than if the training had been after work on my own time.	SA	A	U	D	SD
12.	I have a better work environment because of my New Horizons training.	SA	A	U	D	SD

Analysis Matrix of Project Objectives

No.	Objective	Met?	Source of Data
1.1	To identify and select instructors who have a successful background in Adult Education and job-related workplace training.	MET	
1.2	To conduct training and orientation sessions for all instructors, which will: review effective instructional techniques, adult learning theories, program goals and objectives, course goals and objectives, Individualized Educational Plans and program policies and procedures.		
1.3	To conduct, throughout the project, ongoing assessments and evaluations of all instructors.		
2.1	To conduct and complete comprehensive needs assessments to verify the workers who require basic skills training and to verify the specific job related basic skills required for each participant to most effectively perform his/her job and become more productive.		
2.2	To develop competencies (based on the needs assessments) for each identified skill.		
3.1	To write measurable performance objectives.		
3.2	To develop course measurable objectives.		
4.1	To develop course objectives and course outlines.		
4.2	To design course content to reflect the competencies and skills taught.		
4.3	To develop job related curriculum materials, based on the Literacy Task Analysis, that enhance adult learning and which are designed to meet the stated competencies and performance objectives.		

5.1	To develop a written Individualized Educational Plan for each participant. The Individualized Educational Plans will be negotiated and developed by the participants and the instructors.		
6.1	To conduct basic skills training for at least 484 Georgetown Steel employees during the project period.		
6.2	To offer classes and instruction in: Math and Reading, Writing, Problem Solving and Decision Making , and Time Management		
6.3	To offer a program option of one-on-one tutoring for those with no, or extremely low, reading skills.		
6.4	To provide high school completion/GED preparation classes and training to all who desire, or need, to teach this educational level.		
6.5	To provide class schedules and class sizes which will meet the needs of all participants and enhance learning. Class sizes will be 12-15 students per class. Classes will be offered Monday through Friday. Four class sessions will be offered each day: 7:00 a.m. - 9:00 a.m., 9:00 a.m. - 11:00, 1:00 p.m. - 3:00 p.m. and 3:00 p.m. - 5:00 p.m. Two classes of 12-15 students per class will be held during each two-hour session. Because workers work on a regular schedule of rotating shifts, these sessions will accommodate the needs of all participants.		

6 6	To provide an opportunity for every participant to achieve his/her basic skills improvement goals. Each participant will be scheduled two hours per day (ten hours per week) until the competency level objectives defined in the Individualized Educational Plan have been attained. The hours of training completed by each worker may range from 30 hours to 100+ hours depending upon the basic skills competencies needed. As participants attain their competencies, others will be scheduled for training.		
7 1	To conduct a comprehensive evaluation of trainee outcomes as well as an evaluation of the training program.		
8 1	To develop and implement a multifaceted media campaign to promote the project and inform the community about the benefits of the program.		
8 2	The Project Director will generate a quarterly report which will be submitted to key project personnel. Appropriate information included in the report will be made available for press releases and public service announcements.		
8 3	Upon completion of the first year, at least two articles will be submitted to journals in the fields of Adult Education and Industrial Management. Articles will describe the project and include information beneficial to other corporations and colleges considering similar relationships.		

8.4	Upon completion of the project, the Director will: (1) submit a Final Report to the U.S.D. of E., (2) hold a news conference summarizing the project and its benefits, (3) submit at least three articles to three journals with national circulations, (4) hold a conference open to the public, other agencies, corporations and institutions, and (5) disseminate a summary of the project and copies of published articles to the South Carolina Work Force Initiative Program Specialists.		

Full Data Base Development Format

Purpose: This file should be created on WordPerfect 5.1 and will be used to determine the effectiveness of the project.

```
                                    x                   x         x         x         x
abcde00000000001111111111222222222233333333334444444444555555555566666666677777777778
abcde01234567890123456789012345678901234567890123456789012345678901234567890123456789
```

Column	Data
abcde	Student Clock Number
0-10	Student Name (Last Name and Initial)
11	Sex - "1" = Male, "2" = Female
12	Race - "1" = White, "2" = Black, "3" = American Indian "4" = Asian, "5" = Other
13-14	Highest Grade in School Completed (Use the numbers 1-12 and 13 for Beyond High School)
15-16	Years with the Company
17	SKIP A COLUMN (BLANK)
18	Student Shift "1" = First Shift, "2" = Second Shift, "3" = Third Shift
19-20	Job Code (Based on the assigned job code used by GTS)
21	Problem Solving - "0" = No Participation "1" = Participation
22	Reading - "0" = No Participation "1" = Participation
23	Math - "0" = No Participation "1" = Participation
24	Writing - "0" = No Participation "1" = Participation
25	Time Mgt. - "0" = No Participation "1" = Participation
26	Zapp - "0" = No Participation "1" = Participation
27	TBA - "0" = No Participation "1" = Participation
28	SKIP A COLUMN (BLANK)
29-31	Math Pre Test Total Score
32-34	Math Post Test Total Score
35	SKIP A COLUMN (BLANK)

36-38	Reading Pre Test Total Score
39-41	Reading Post Test Total Score
42	SKIP A COLUMN (BLANK)
43-44	Writing Pre Test Total Score
45-46	Writing Post Test Total Score
47	SKIP A COLUMN (BLANK)
48-59	Item Responses to the Student Survey Form (Form to Be Developed during September Visit)

REMAINING COLUMNS (60-80) TO BE USED AS NEEDED

NEW HORIZONS QUARTERLY SURVEY
REVISED VERSION

Of the _____ employees from your department who have participated in the New Horizons training

How many have improved their communications skills? _____

Which job behaviors indicate these improvements?

Can you give some examples?

How many have increased their productivity? _____

Which job behaviors indicate these improvements?

Can you give some examples?

How many have improved attendance records? _____

Can you give some examples

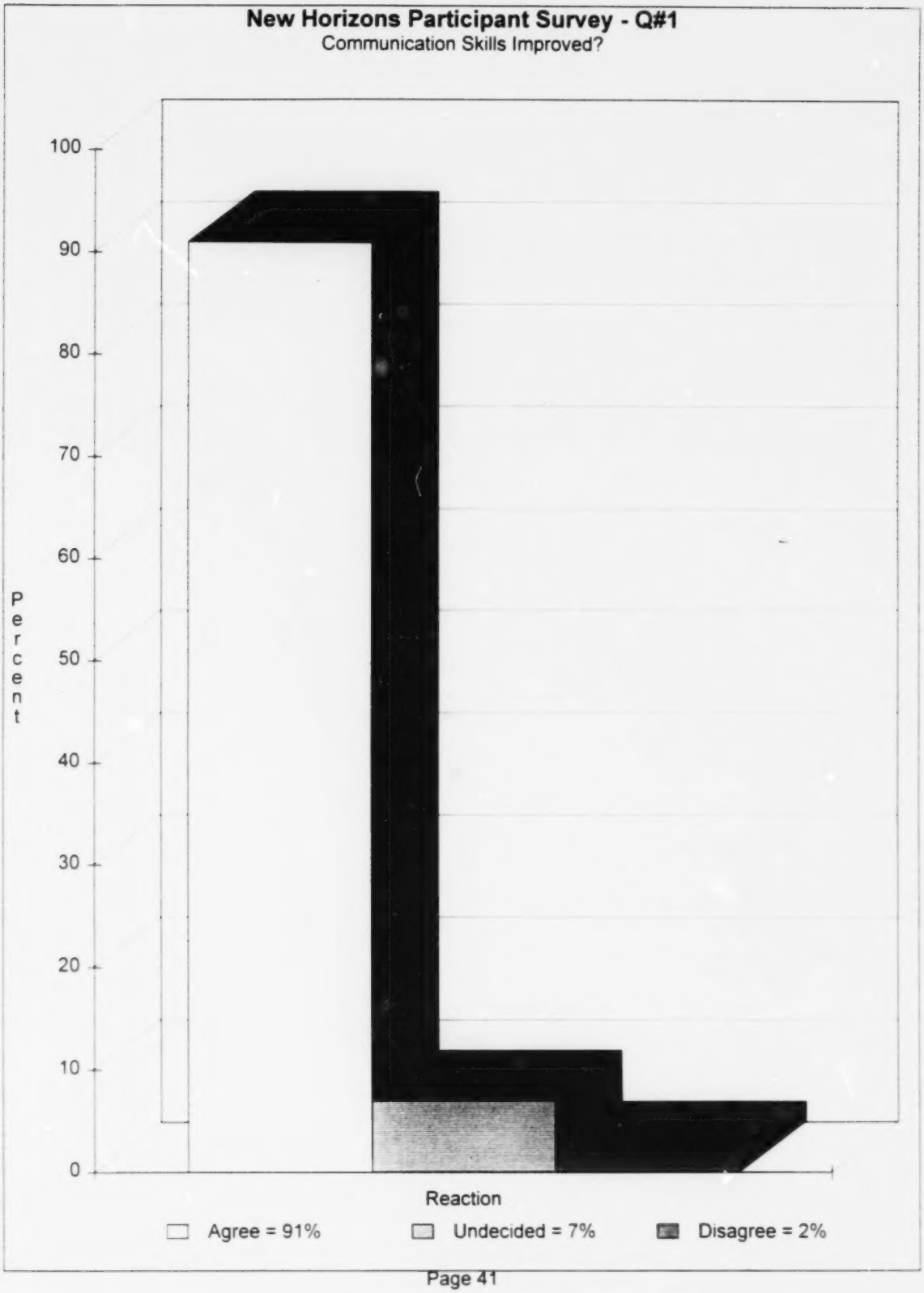
How many do you feel have improved self esteem after participating in the New Horizons Program ? _____

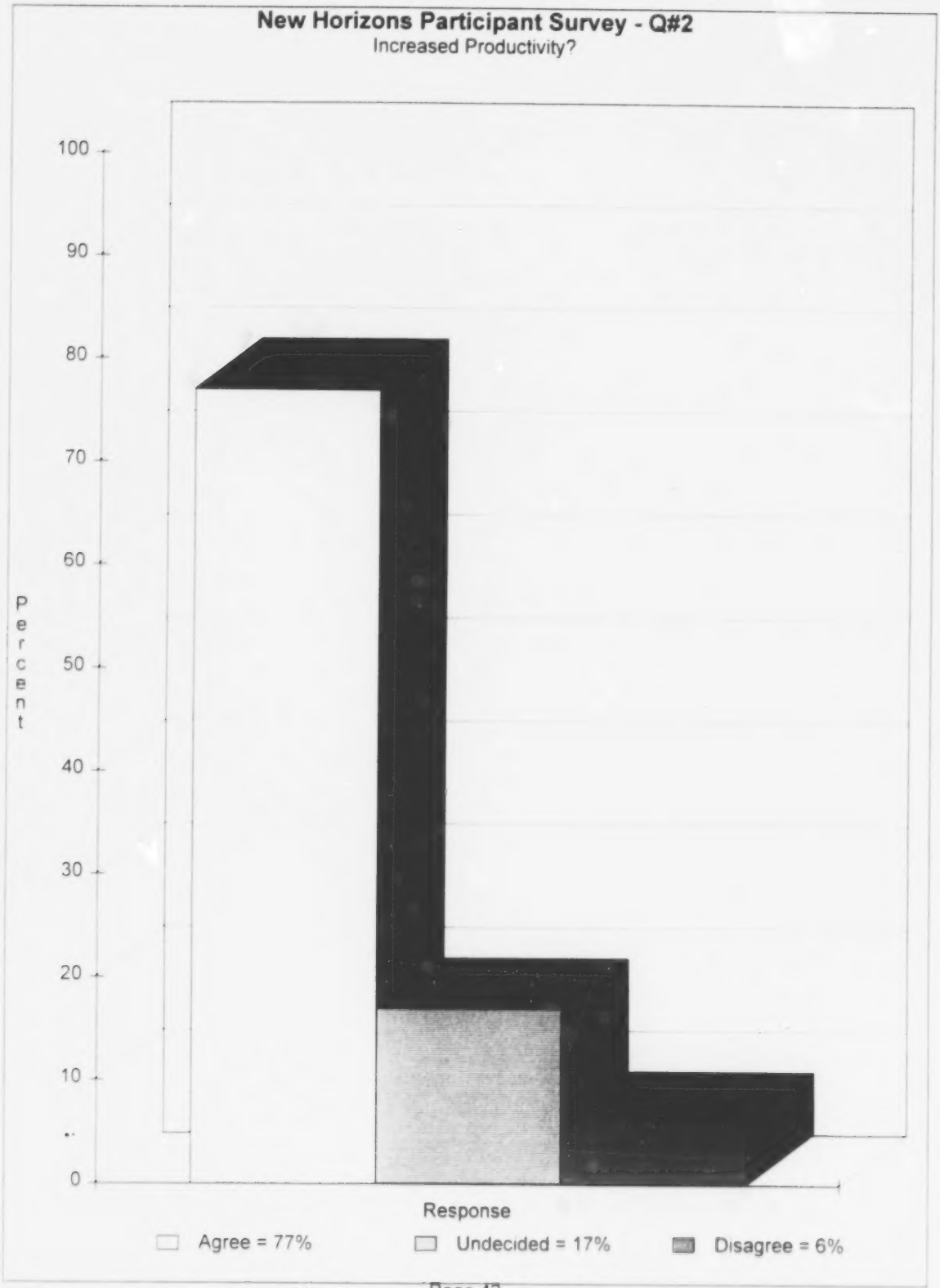
Which job or personal behaviors indicate these improvements?

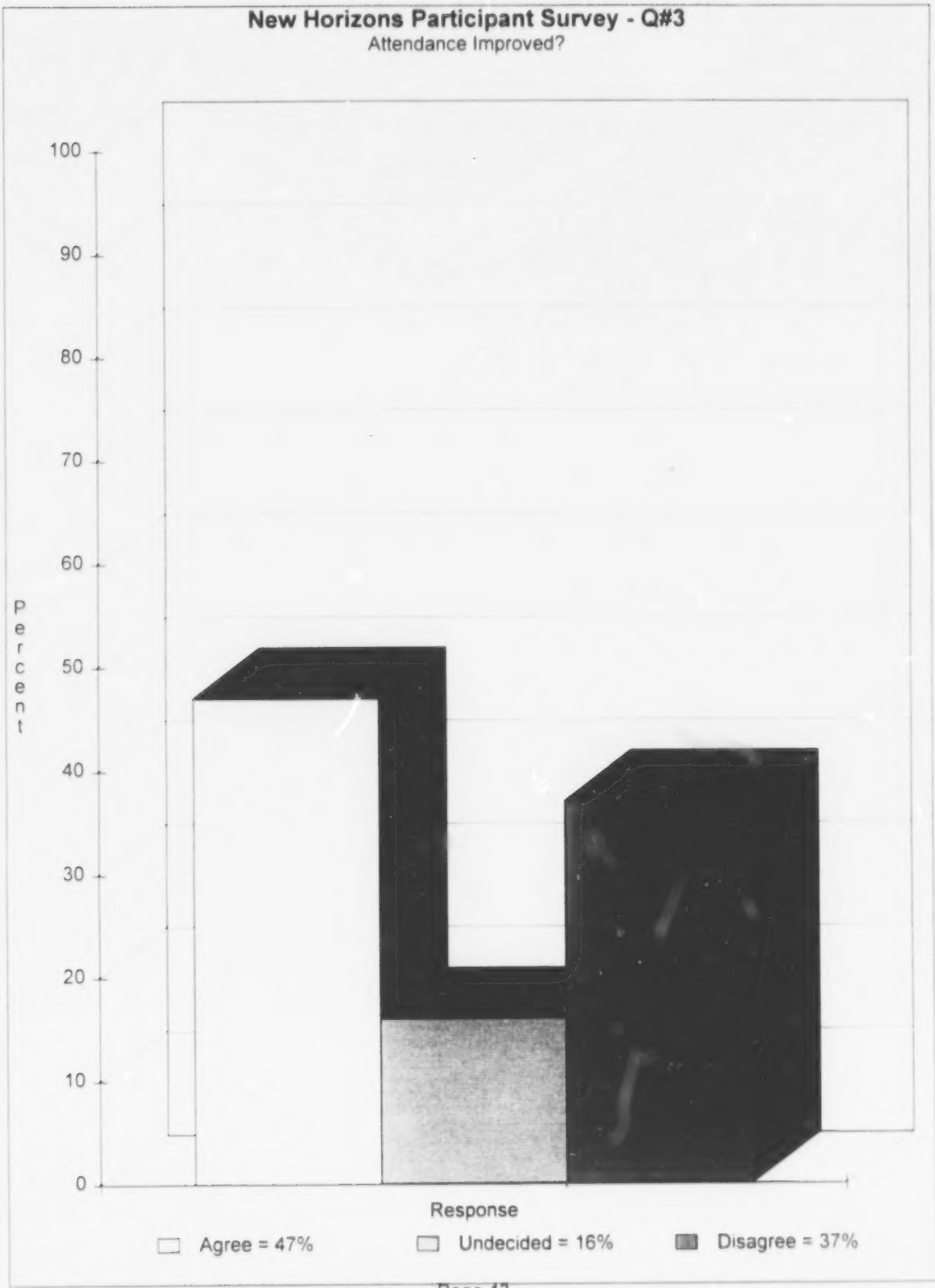
Can you give some examples?

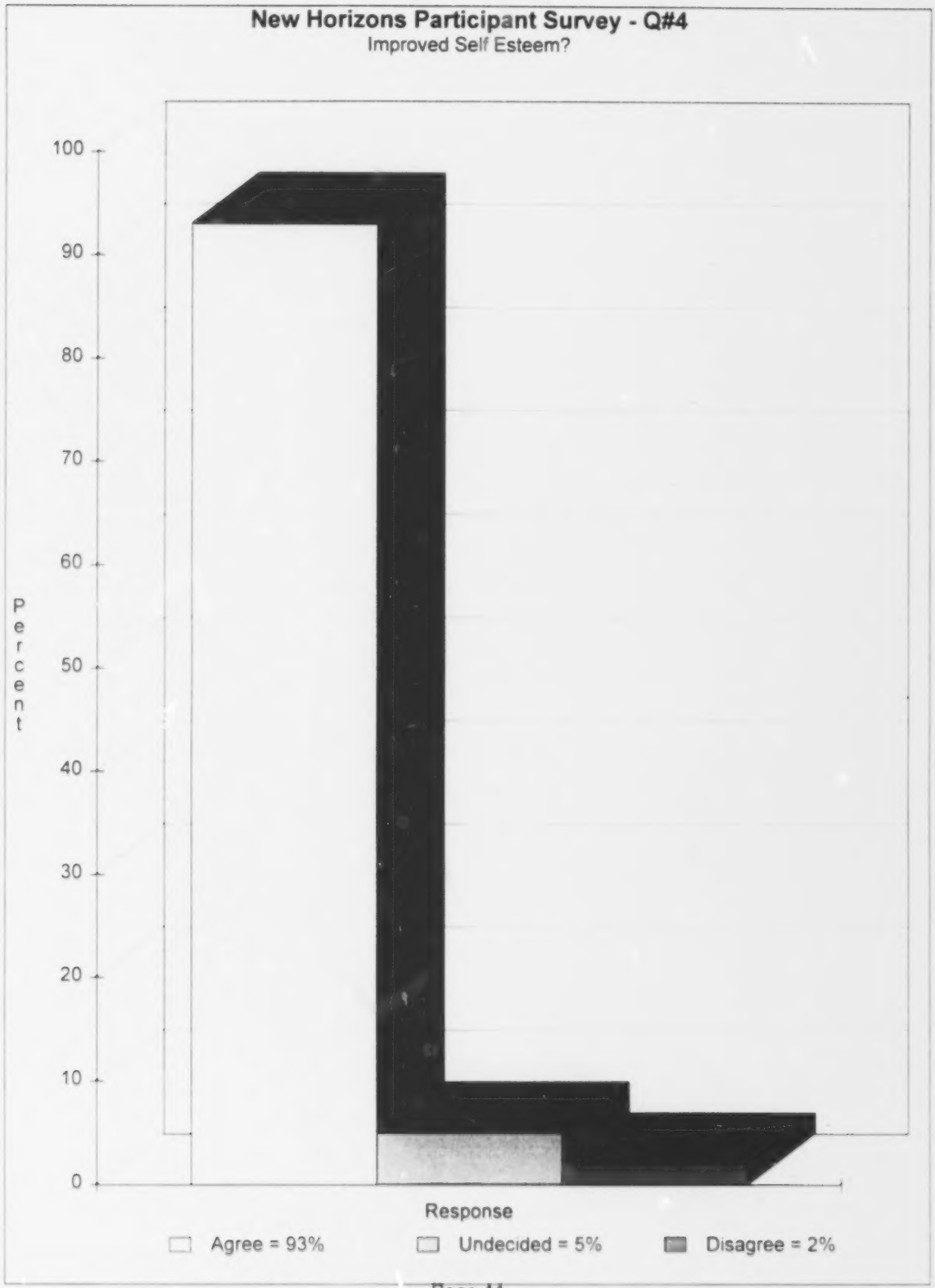
APPENDIX B: "CHARTS"

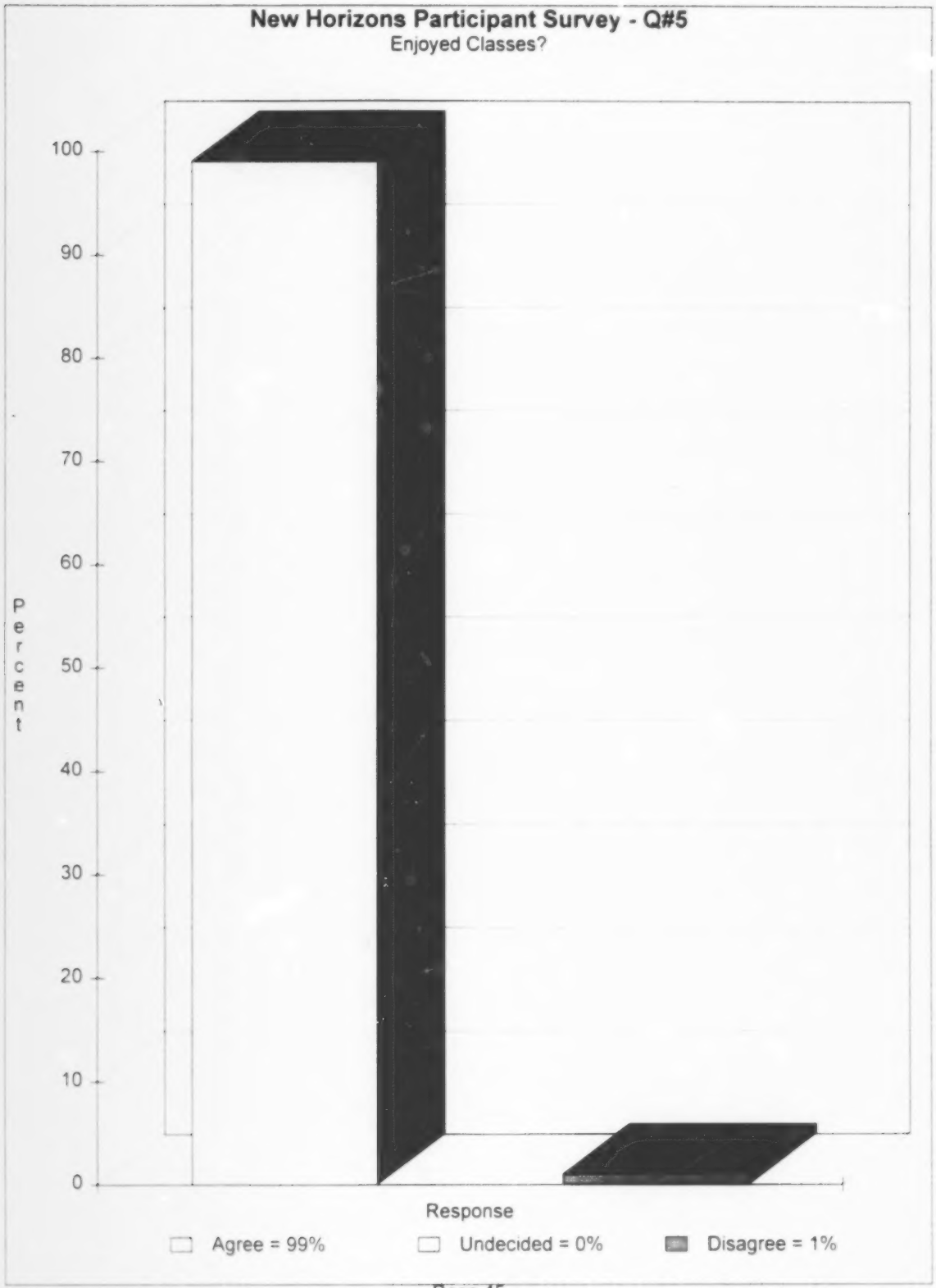
New Horizons Participant Survey
Pre and Post Test Comparisons
GSC Key Indicator Data Charts

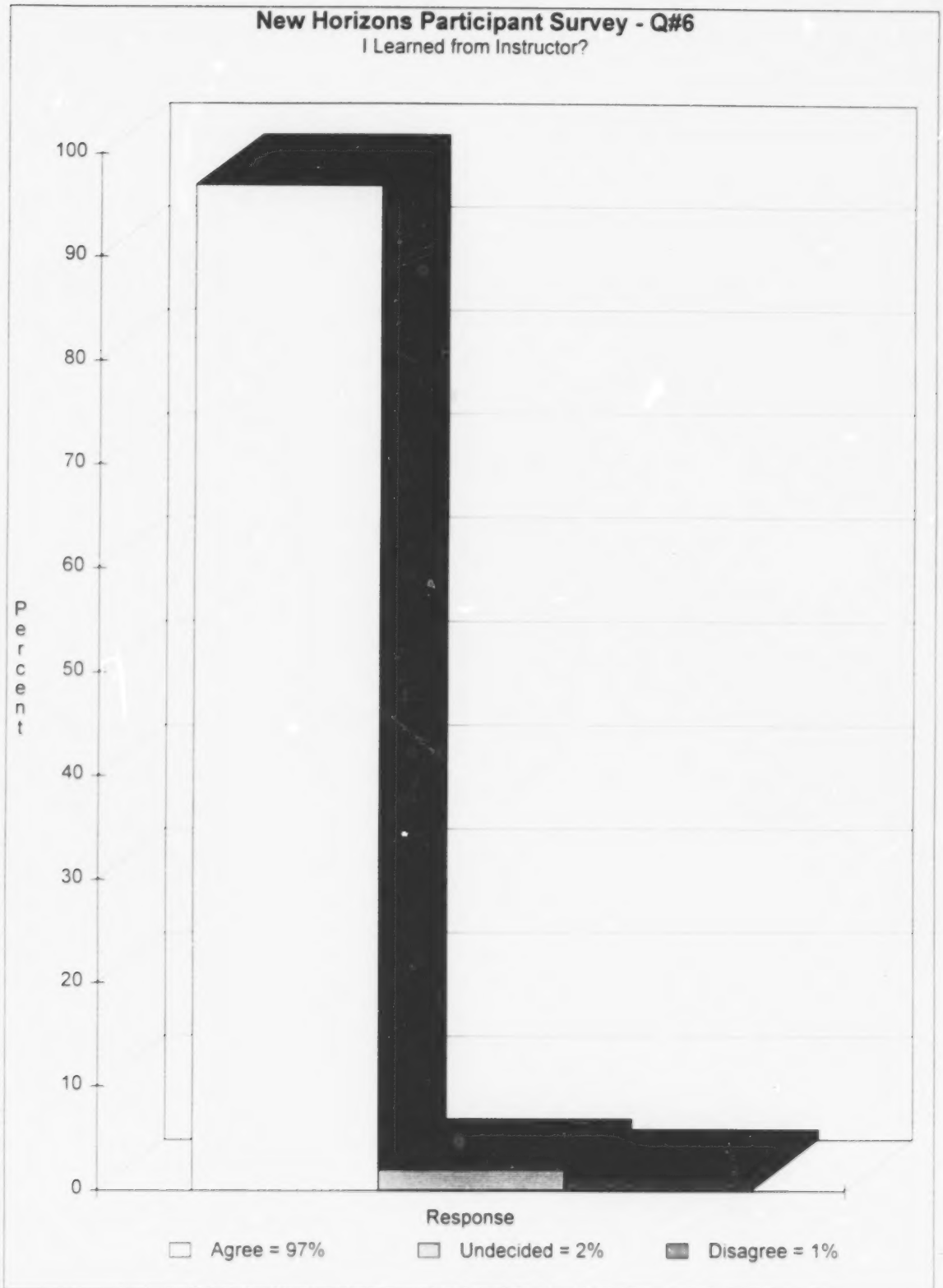

New Horizons Participant Survey - Q#1
Communication Skills Improved?
100
90
80
70
60
50
40
30
20
10
0
Percent
Reaction
Agree = 91%
Undecided = 7%
Disagree = 2%

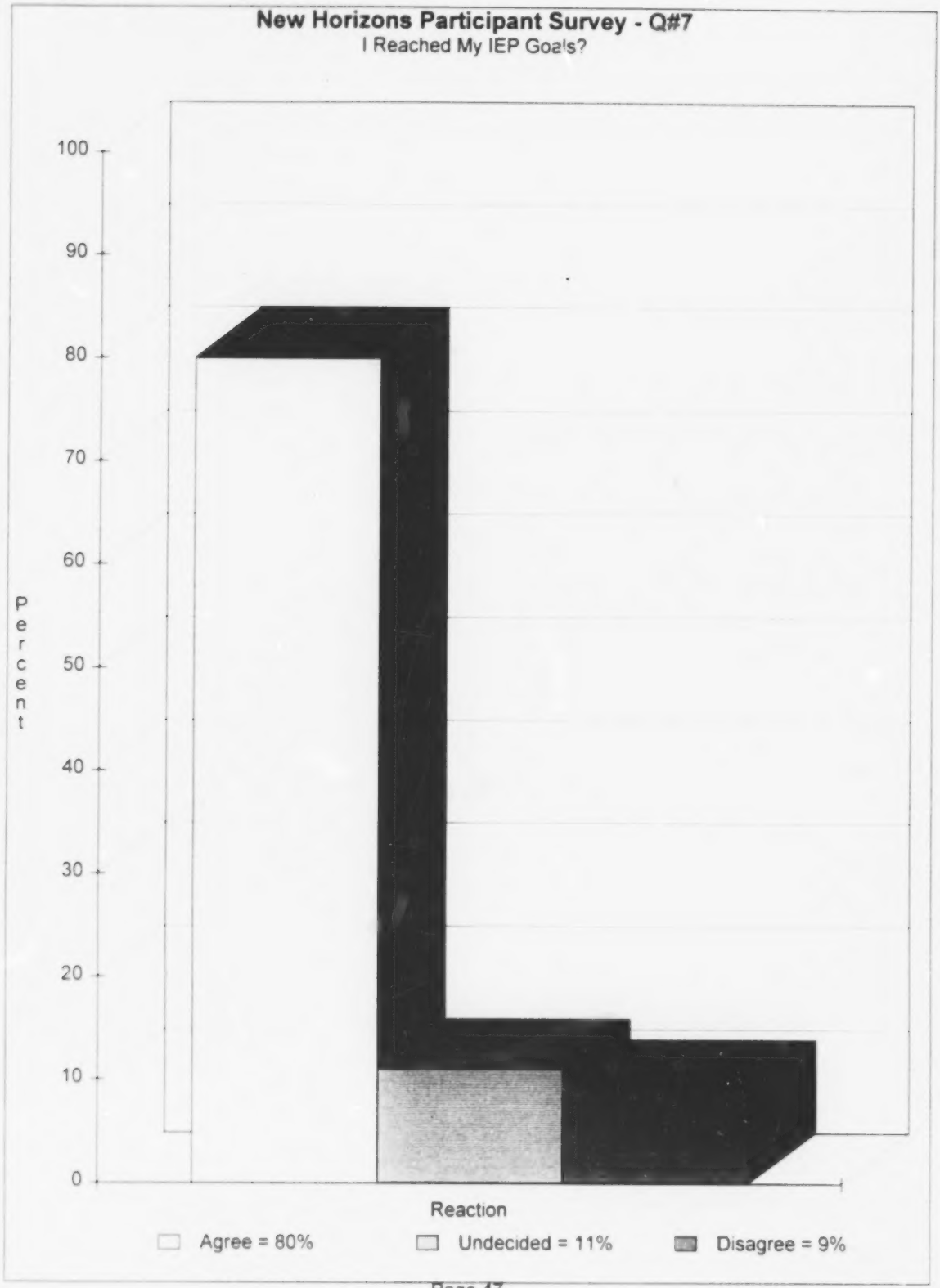

New Horizons Participant Survey - Q#2
Increased Productivity?
100
90
80
70
60
50
40
30
20
10
0
Percent
Response
Agree = 77%
Undecided = 17%
Disagree = 6%


New Horizons Participant Survey - Q#3
Attendance Improved?
100
90
80
70
60
50
40
30
20
10
0
Percent
Response
Agree = 47%
Undecided = 16%
Disagree = 37%


New Horizons Participant Survey - Q#4
Improved Self Esteem?
100
90
80
70
60
50
40
30
20
10
0
Percent
Response
Agree = 93%
Undecided = 5%
Disagree = 2%


New Horizons Participant Survey - Q#5
Enjoyed Classes?
100
90
80
70
60
50
40
30
20
10
0
Percent
Response
Agree = 99%
Undecided = 0%
Disagree = 1%


New Horizons Participant Survey - Q#6
I Learned from Instructor?
100
90
80
70
60
50
40
30
20
10
0
Percent
Response
Agree = 97%
Undecided = 2%
Disagree = 1%
Page 46


New Horizons Participant Survey - Q#7
I Reached My IEP Goals?
100
90
80
70
60
50
40
30
20
10
0
Percent
Reaction
Agree = 80%
Undecided = 11%
Disagree = 9%

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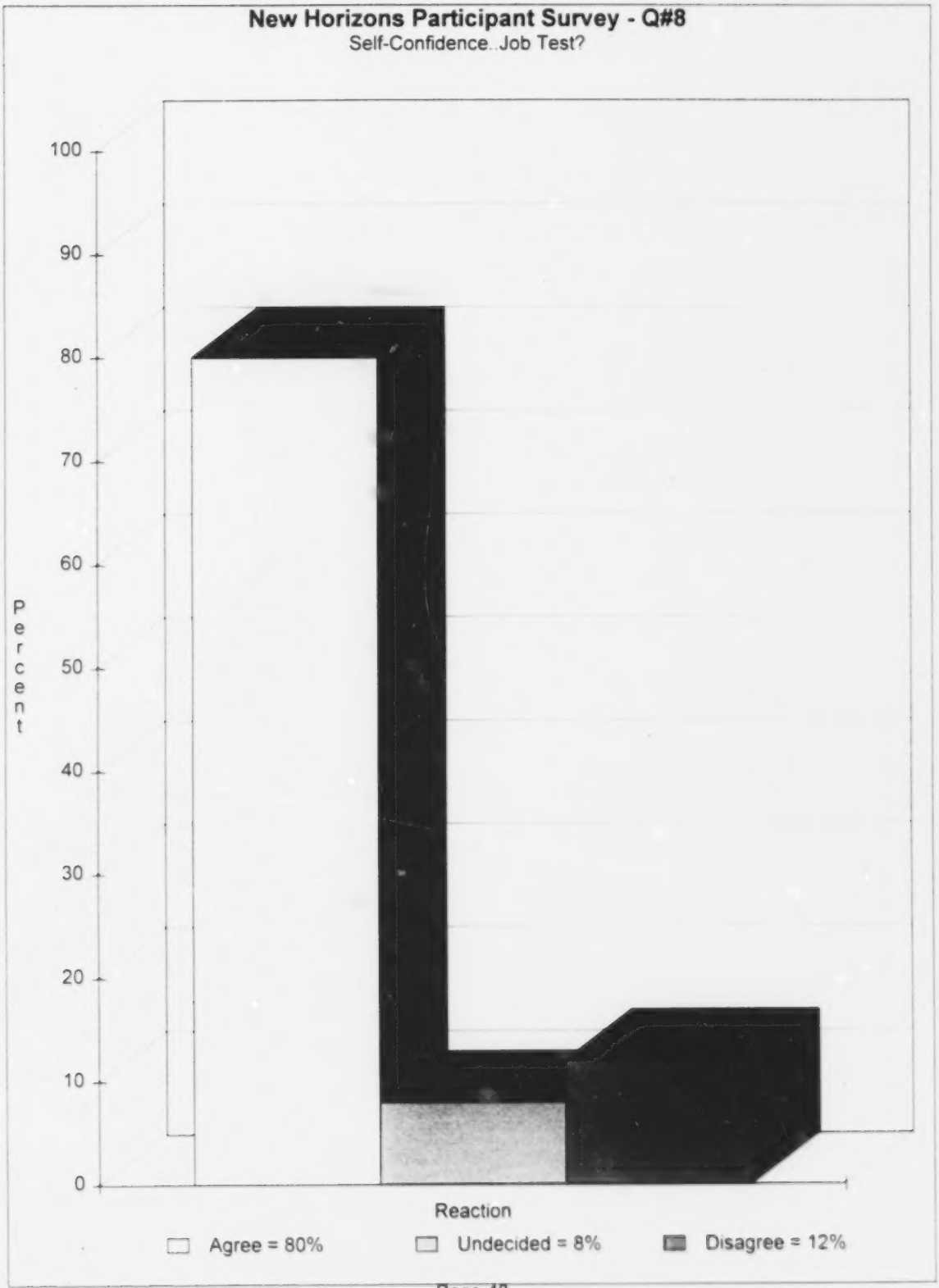
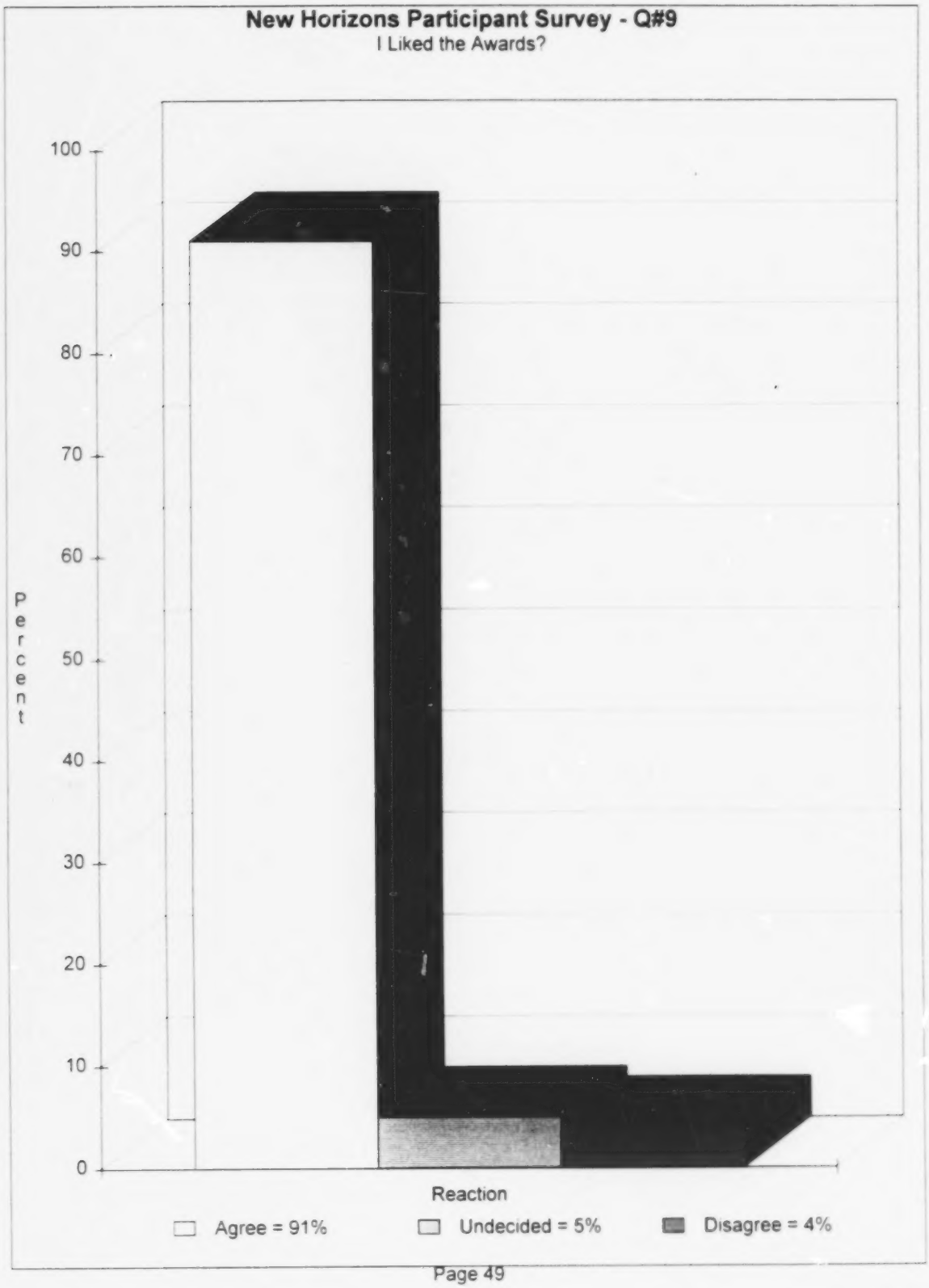
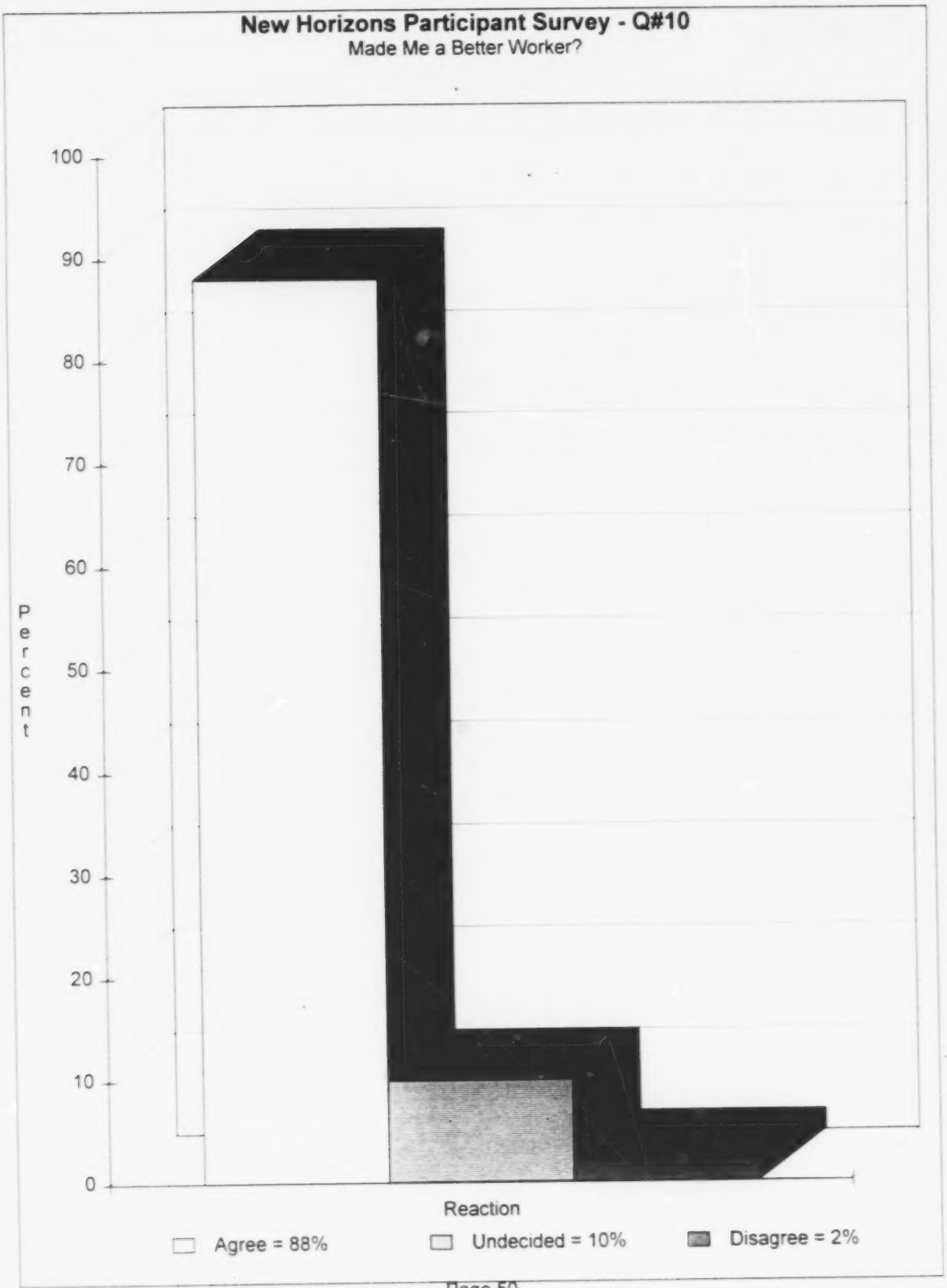
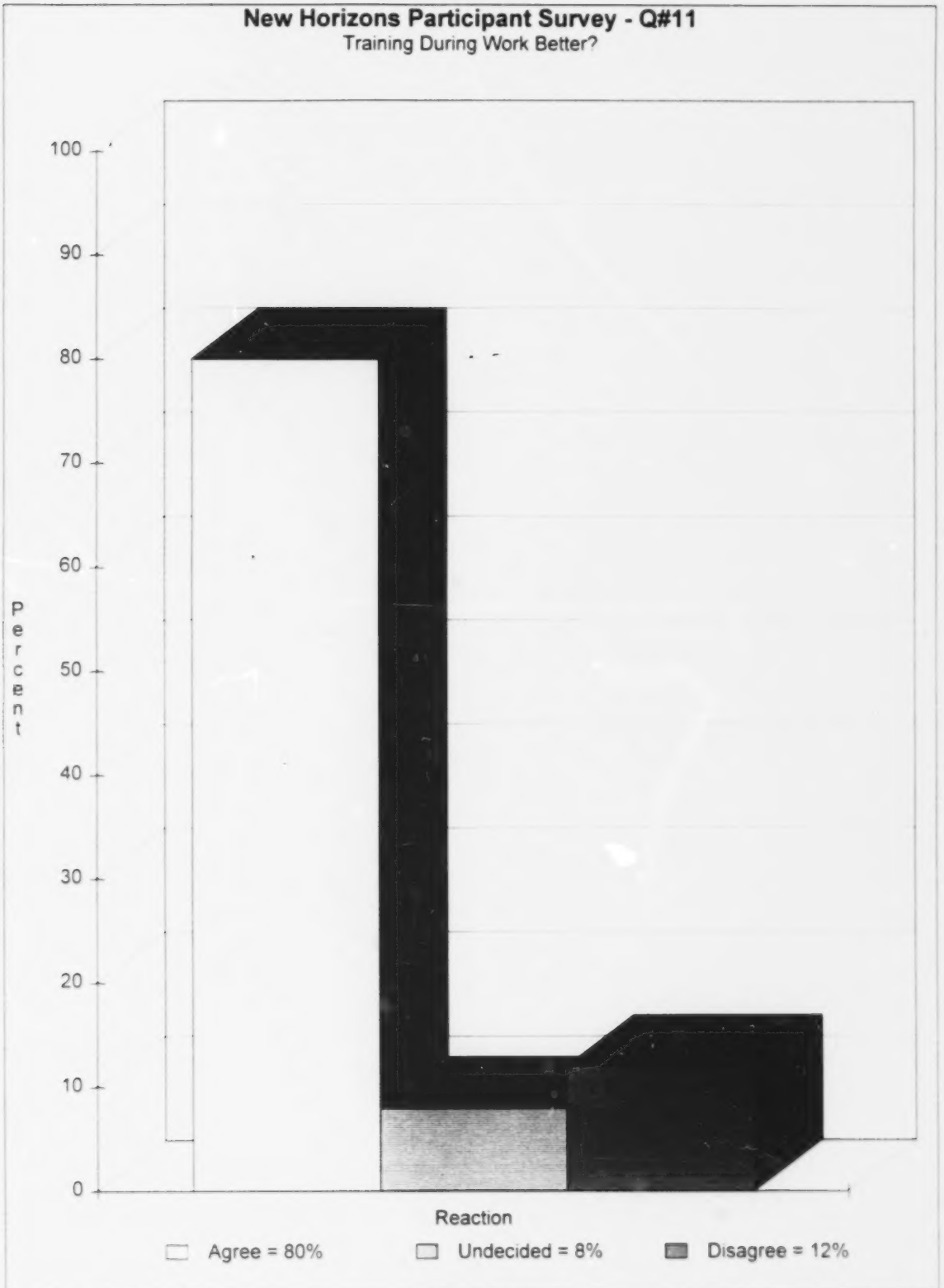
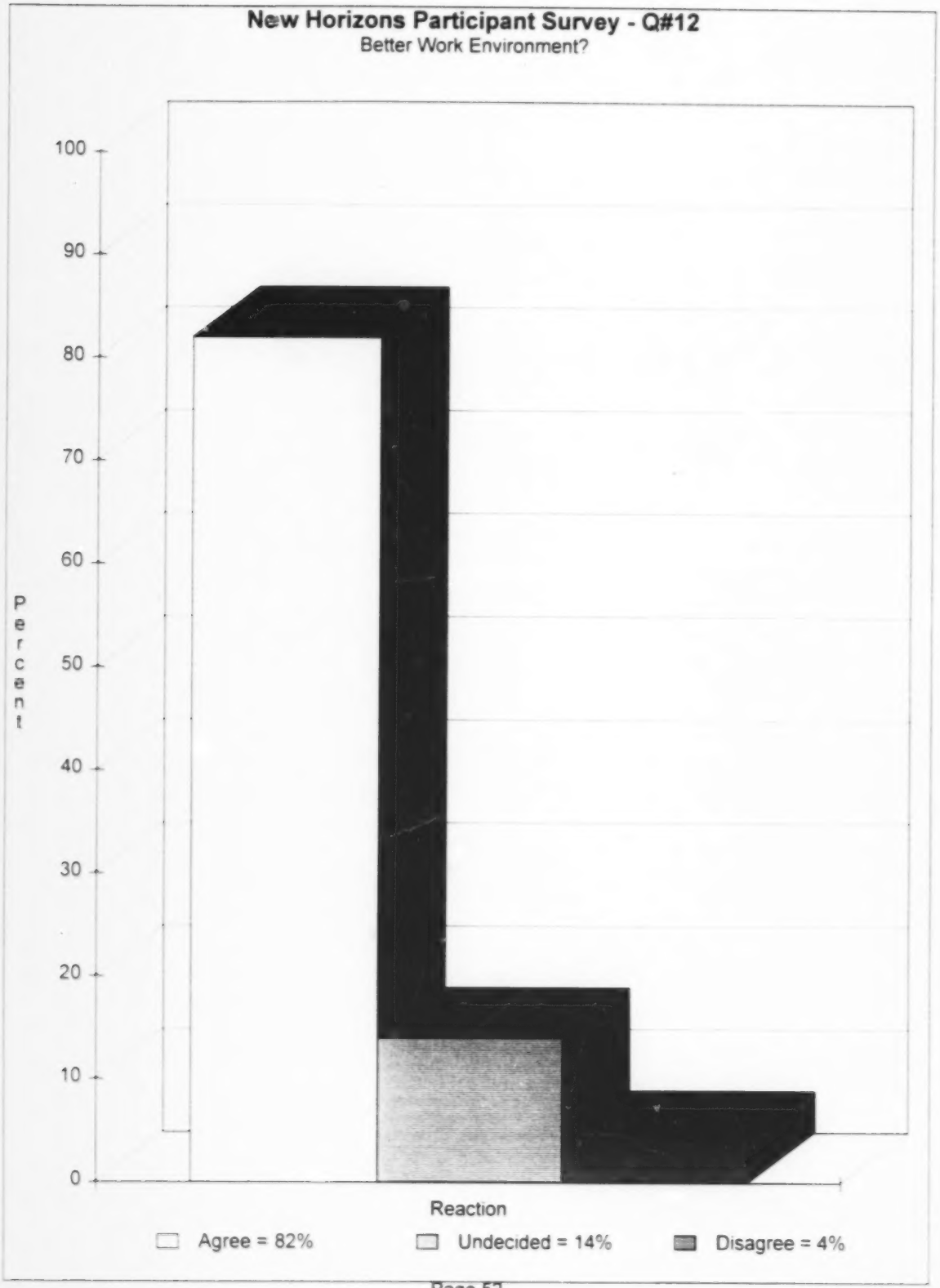
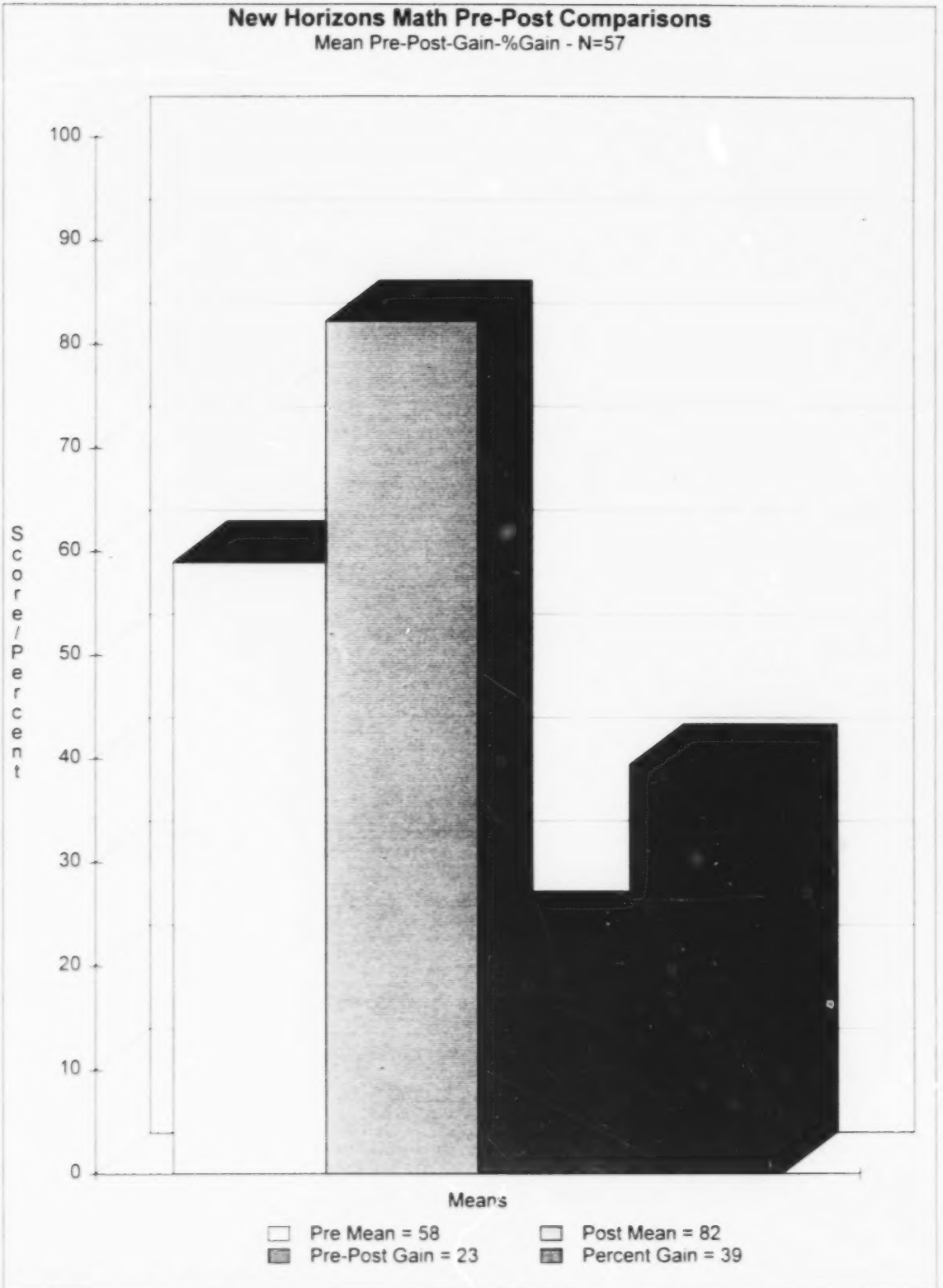

New Horizons Participant Survey - Q#8
Self-Confidence..Job Test?
100
90
80
70
60
50
40
30
20
10
0
Percent
Reaction
Agree = 80%
Undecided = 8%
Disagree = 12%


New Horizons Participant Survey - Q#9
I Liked the Awards?
100
90
80
70
60
50
40
30
20
10
0
Percent
Reaction
Agree = 91%
Undecided = 5%
Disagree = 4%


New Horizons Participant Survey - Q#10
Made Me a Better Worker?
100
90
80
70
60
50
40
30
20
10
0
Percent
Reaction
Agree = 88%
Undecided = 10%
Disagree = 2%


New Horizons Participant Survey - Q#11
Training During Work Better?
100
90
80
70
60
50
40
30
20
10
0
Percent
Reaction
Agree = 80%
Undecided = 8%
Disagree = 12%


New Horizons Participant Survey - Q#12
Better Work Environment?
100
90
80
70
60
50
40
30
20
10
0
Percent
Reaction
Agree = 82%
Undecided = 14%
Disagree = 4%


New Horizons Math Pre-Post Comparisons
Mean Pre-Post-Gain-%Gain - N=57
100
90
80
70
60
50
40
30
20
10
0
Score/Percent
Means
Pre Mean = 58
Post Mean = 82
Pre-Post Gain = 23
Percent Gain = 39

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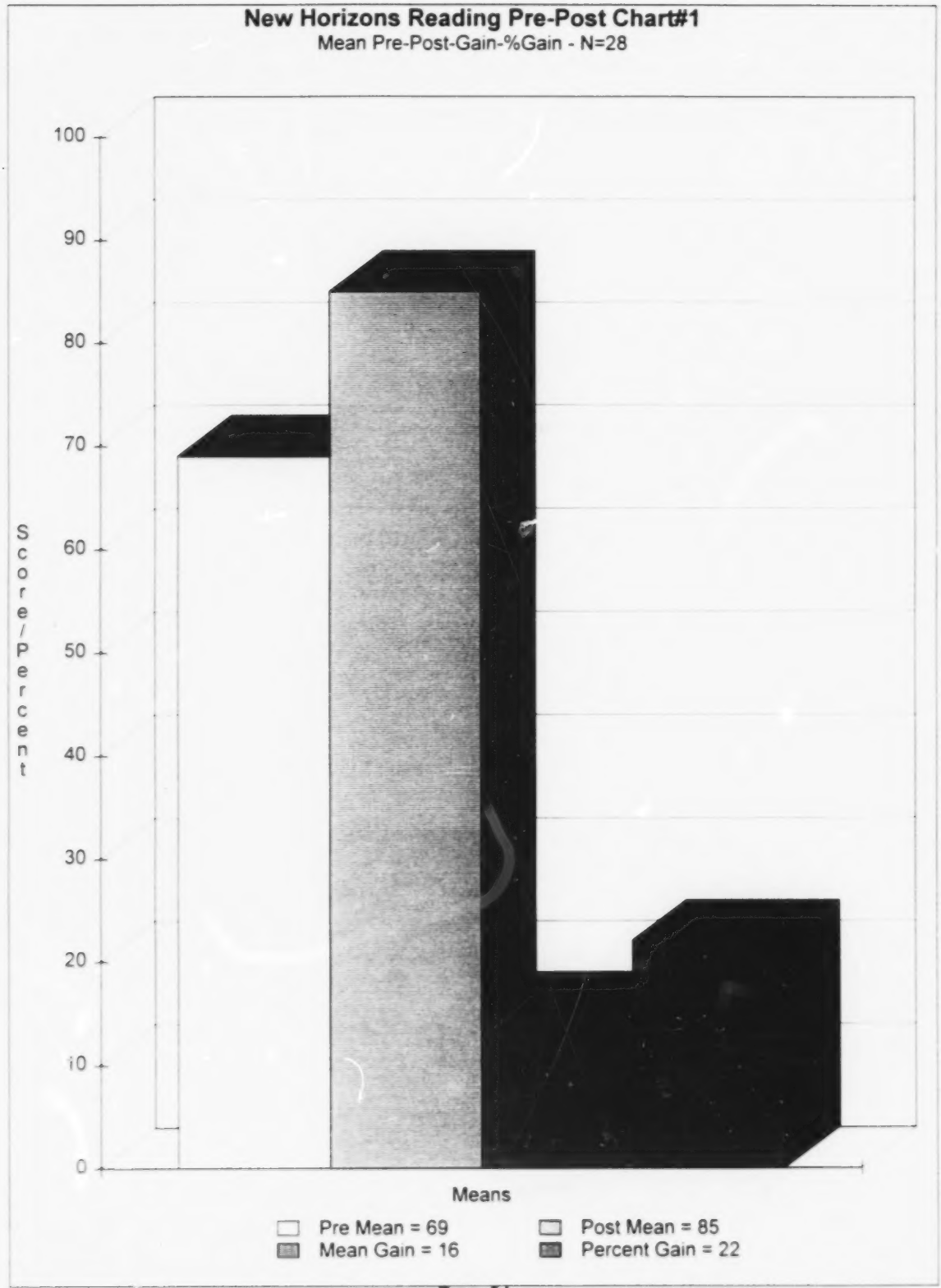
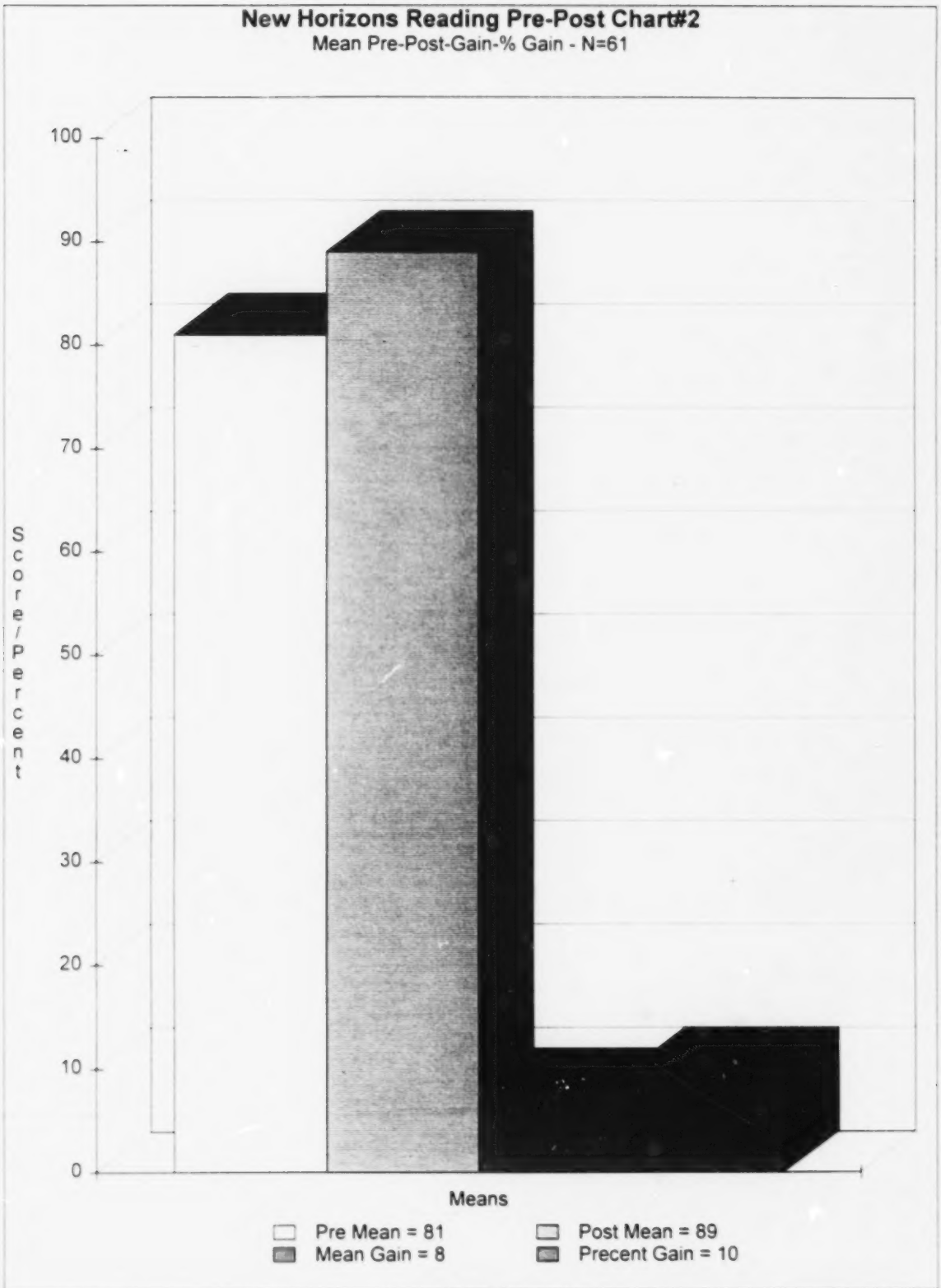
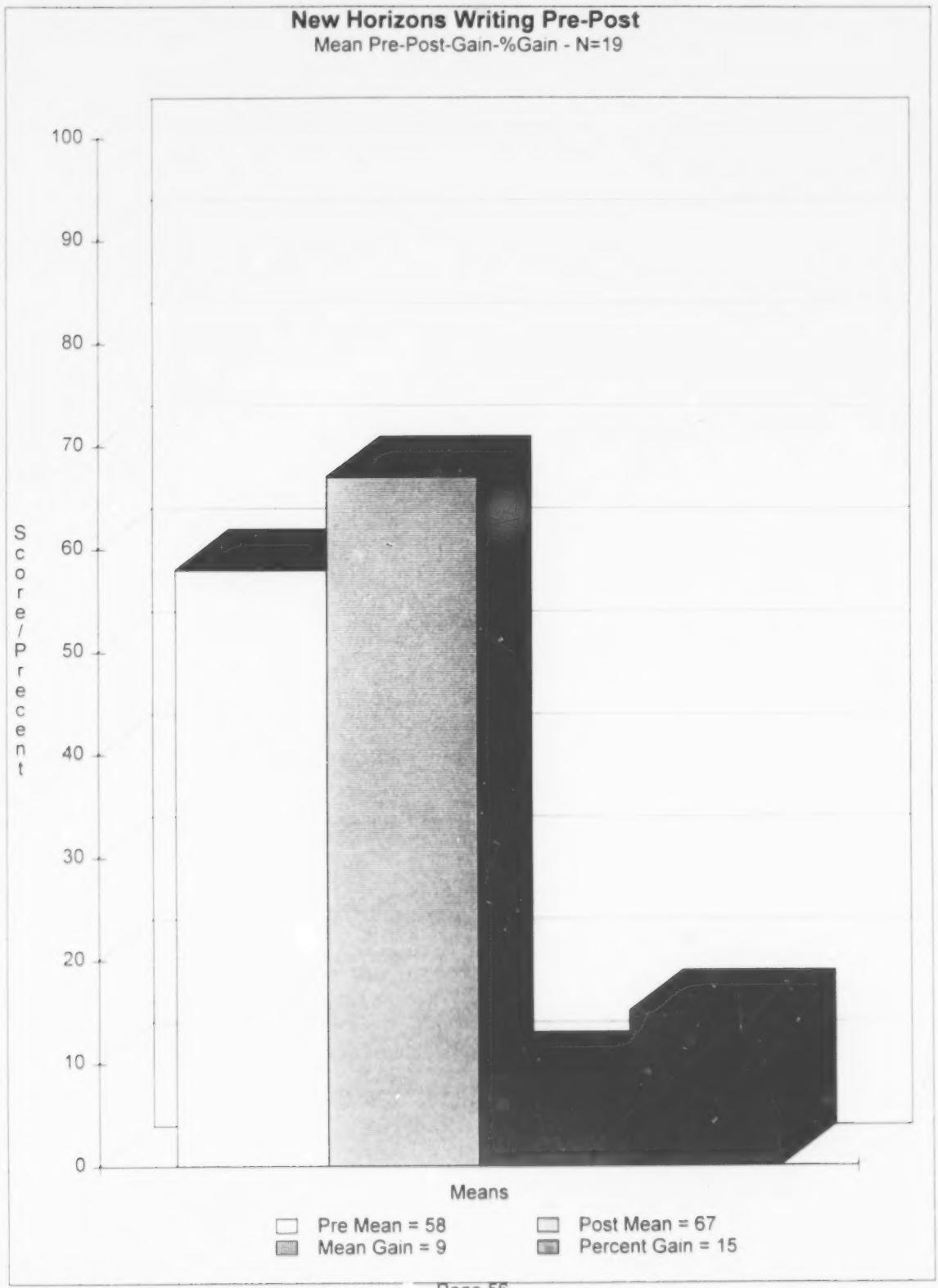
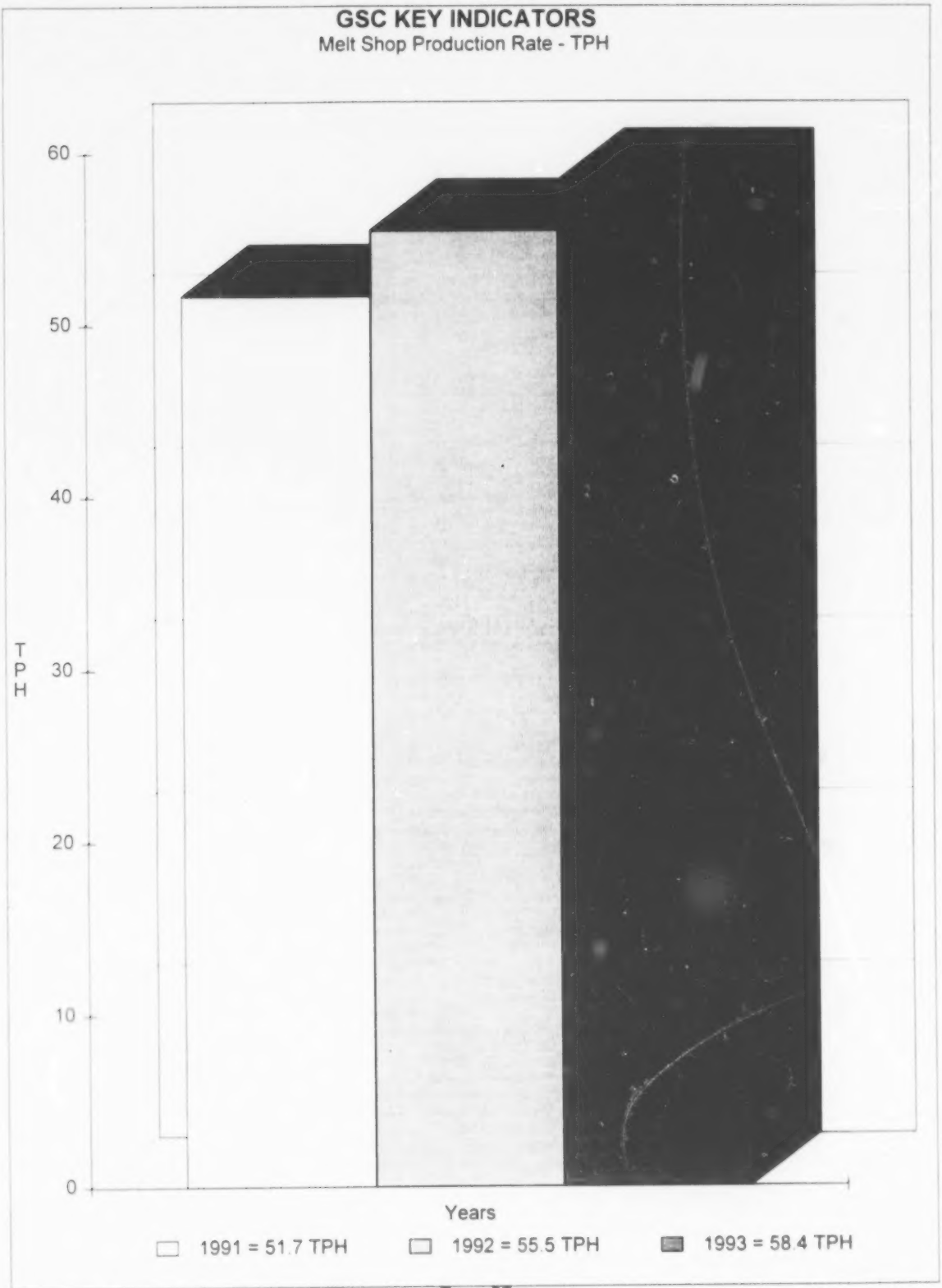

New Horizons Reading Pre-Post Chart#1
Mean Pre-Post-Gain-%Gain - N=28
100
90
80
70
60
50
40
30
20
10
0
Score/Percent
Means
Pre Mean = 69
Post Mean = 85
Mean Gain = 16
Percent Gain = 22


New Horizons Reading Pre-Post Chart#2
Mean Pre-Post-Gain-% Gain - N=61
100
90
80
70
60
50
40
30
20
10
0
Score/Percent
Means
Pre Mean = 81
Post Mean = 89
Mean Gain = 8
Precent Gain = 10


New Horizons Writing Pre-Post
Mean Pre-Post-Gain-%Gain - N=19
100
90
80
70
60
50
40
30
20
10
0
Score/Precent
Means
Pre Mean = 58
Mean Gain = 9
Post Mean = 67
Percent Gain = 15

INCREASE = 13% From 1991 to 1993



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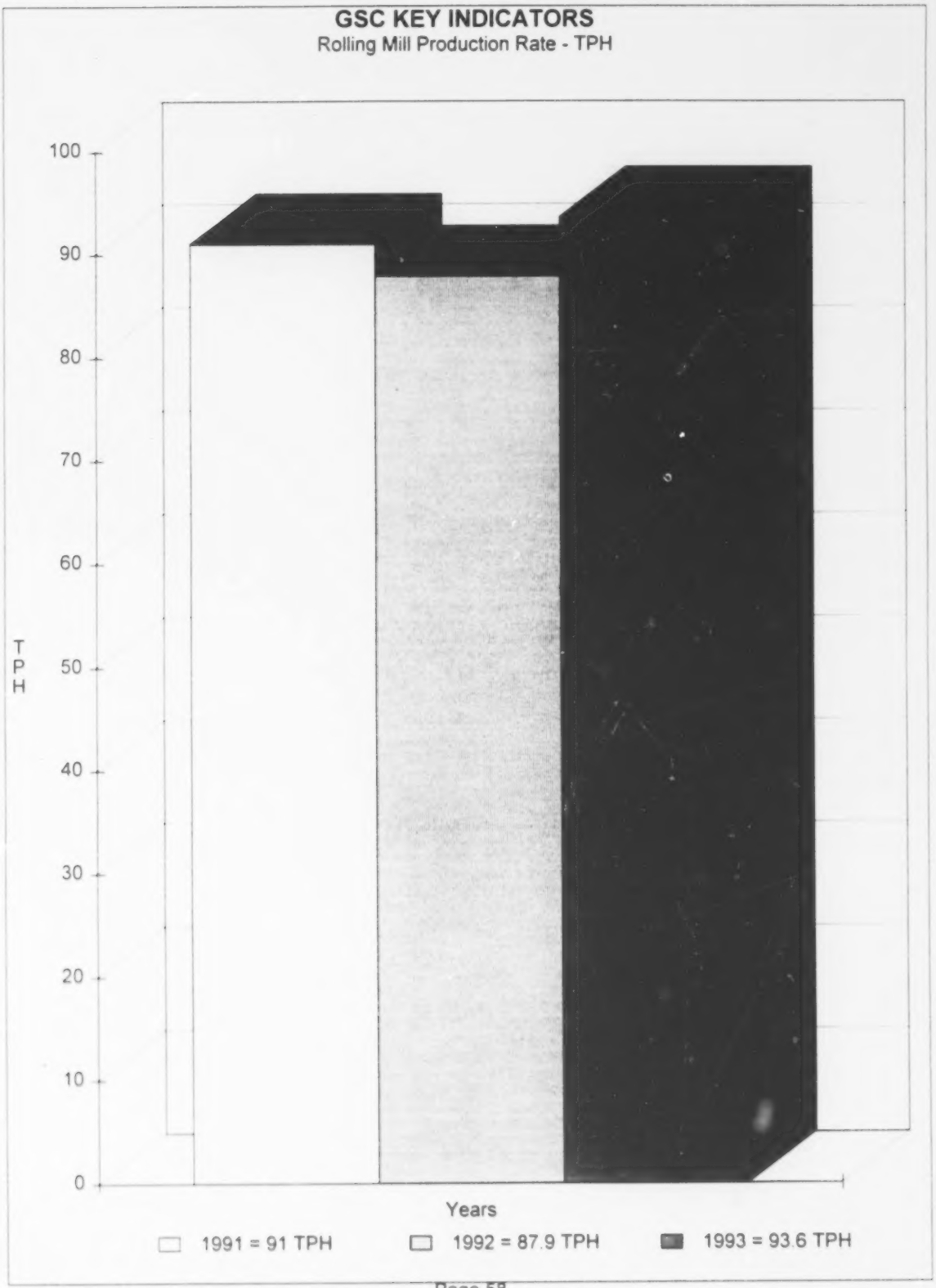
INCREASE = 3% from 1991 to 1993



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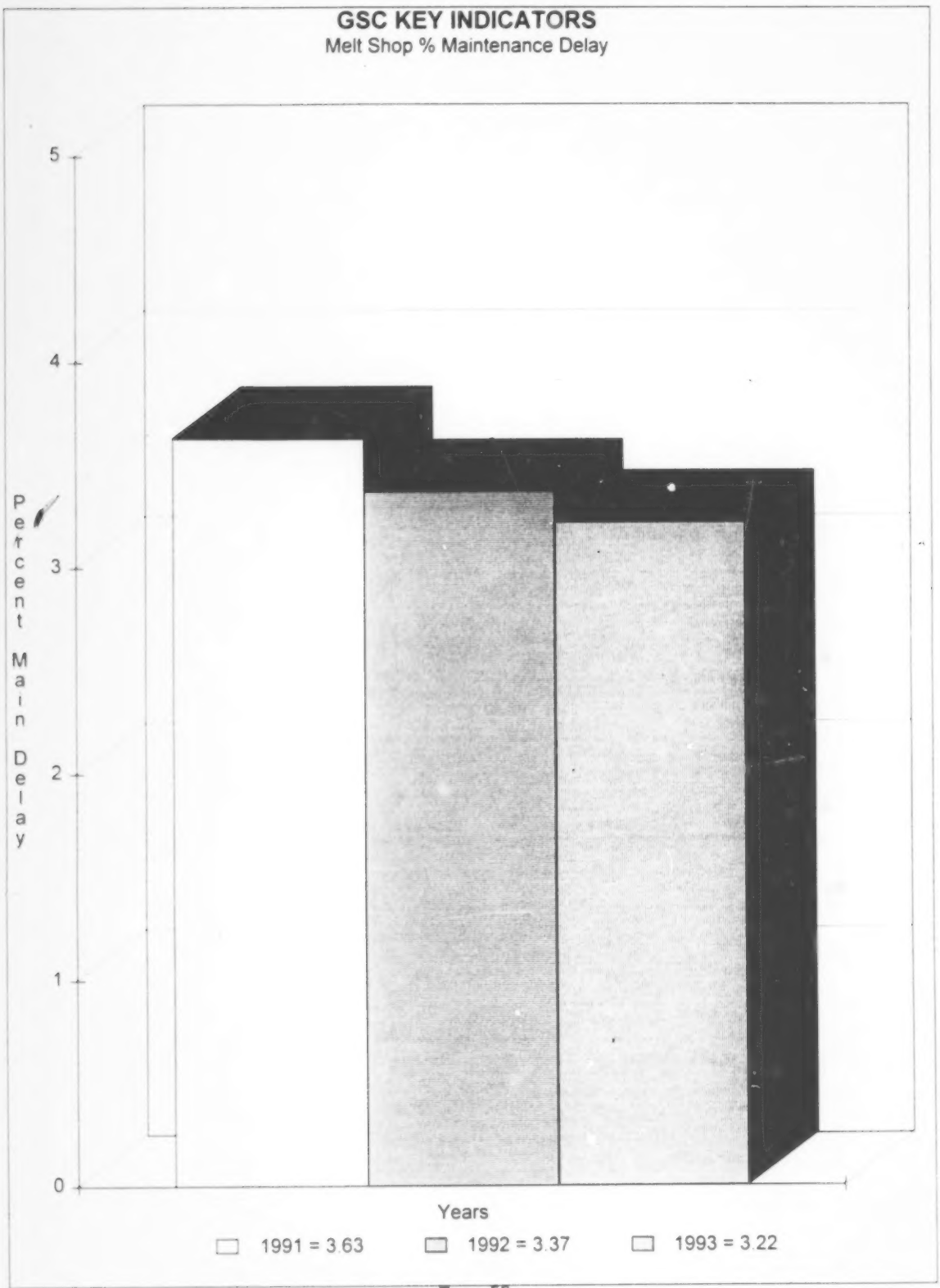
REDUCTION OF DELAY = 11% From 1991 to 1993



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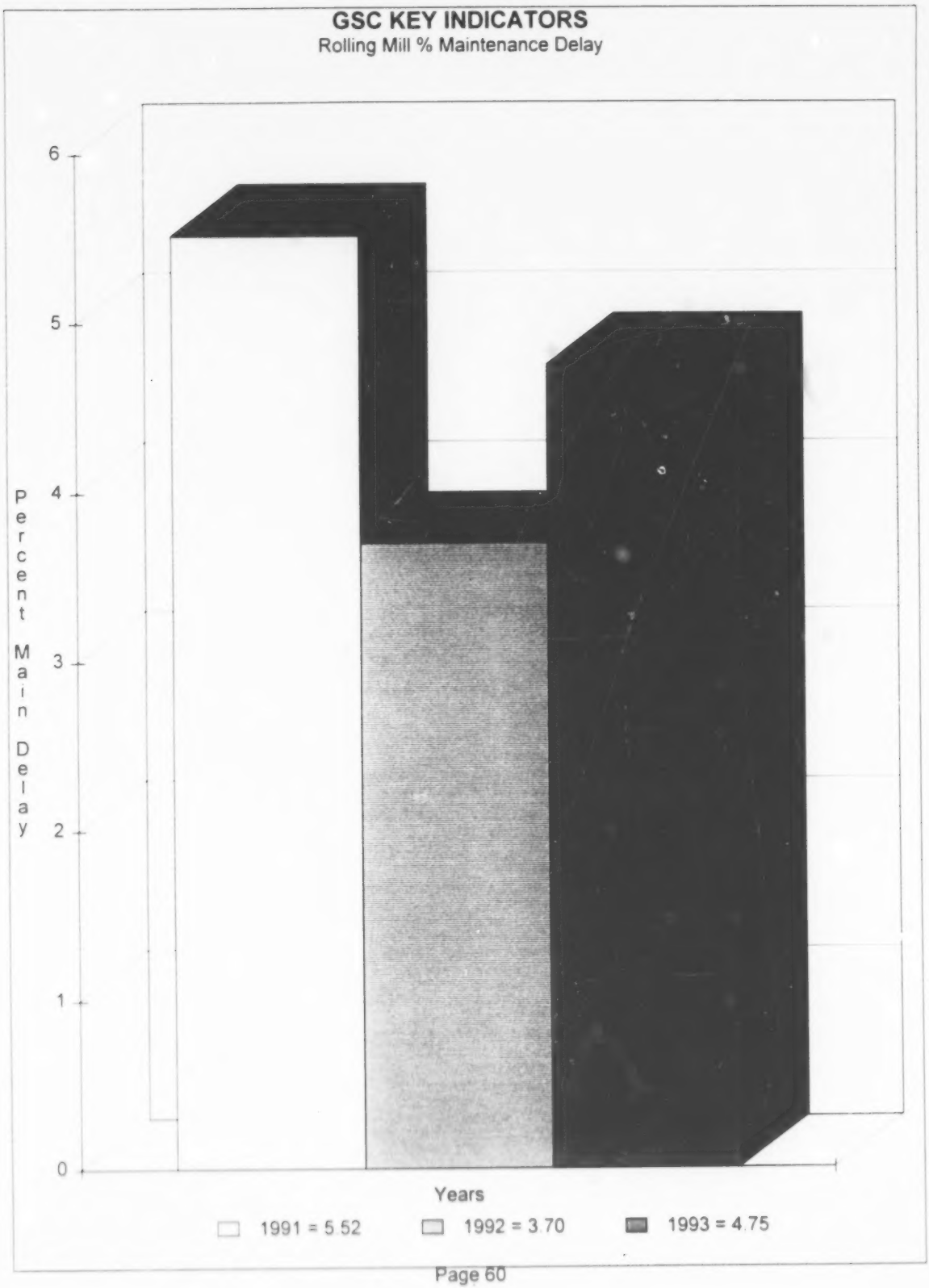
REDUCTION OF DELAY = 14% From 1991 to 1993



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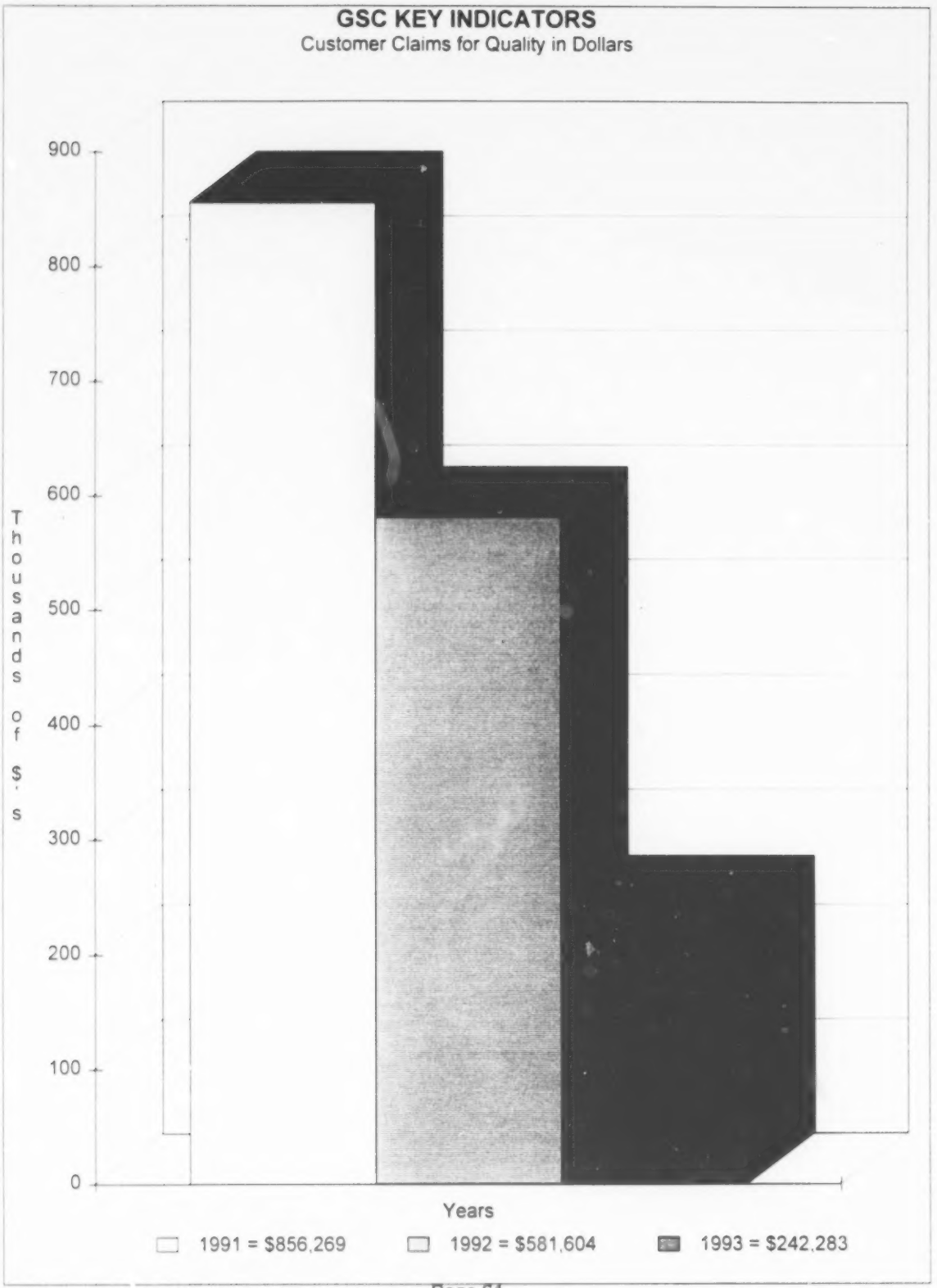
REDUCTION OF CLAIMS FOR QUALITY = 72% From 1991 to 1993



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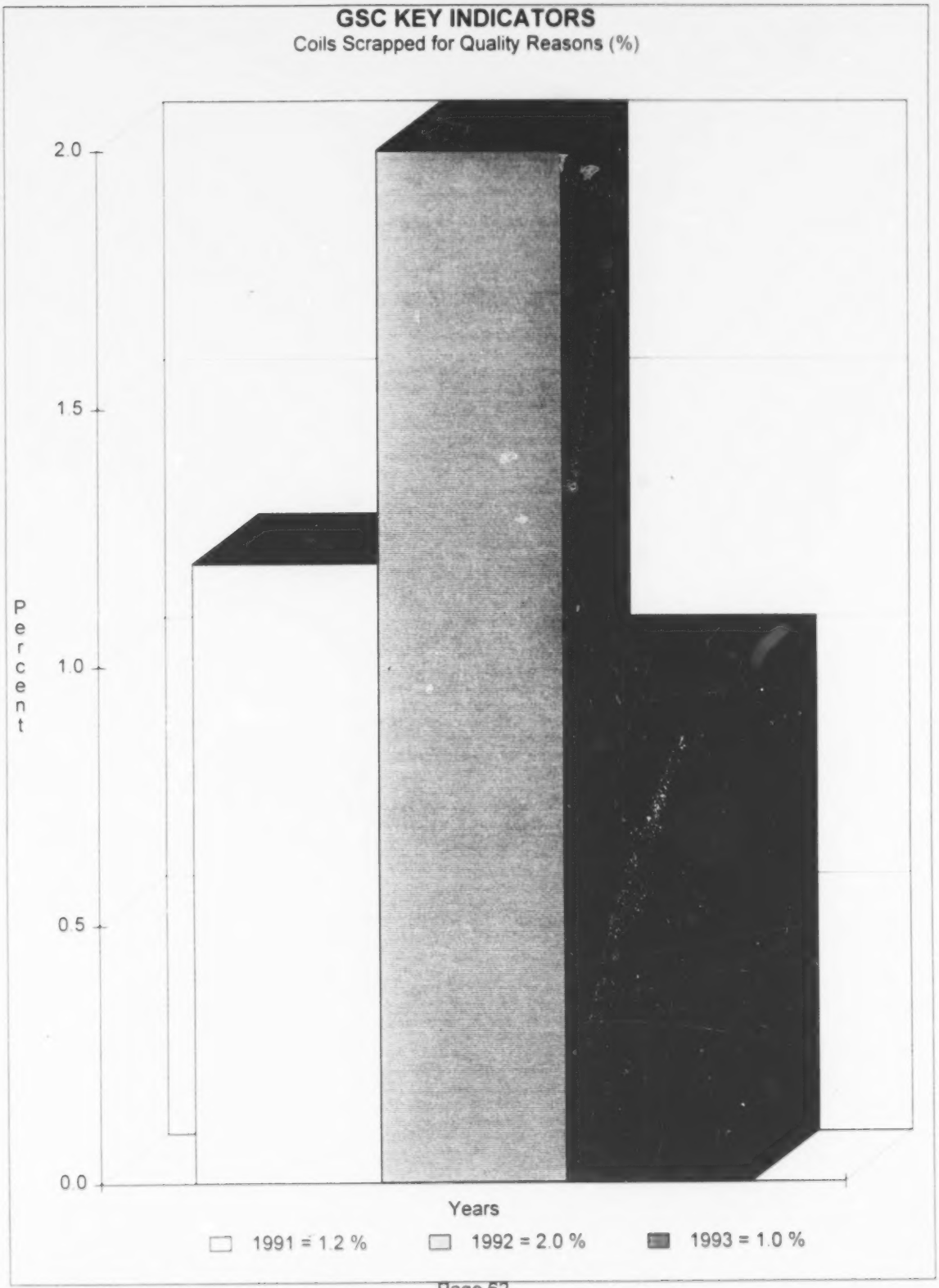
REDUCTION OF COILS SCRAPPED FOR QUALITY REASONS = 17% From 1991 to 1993



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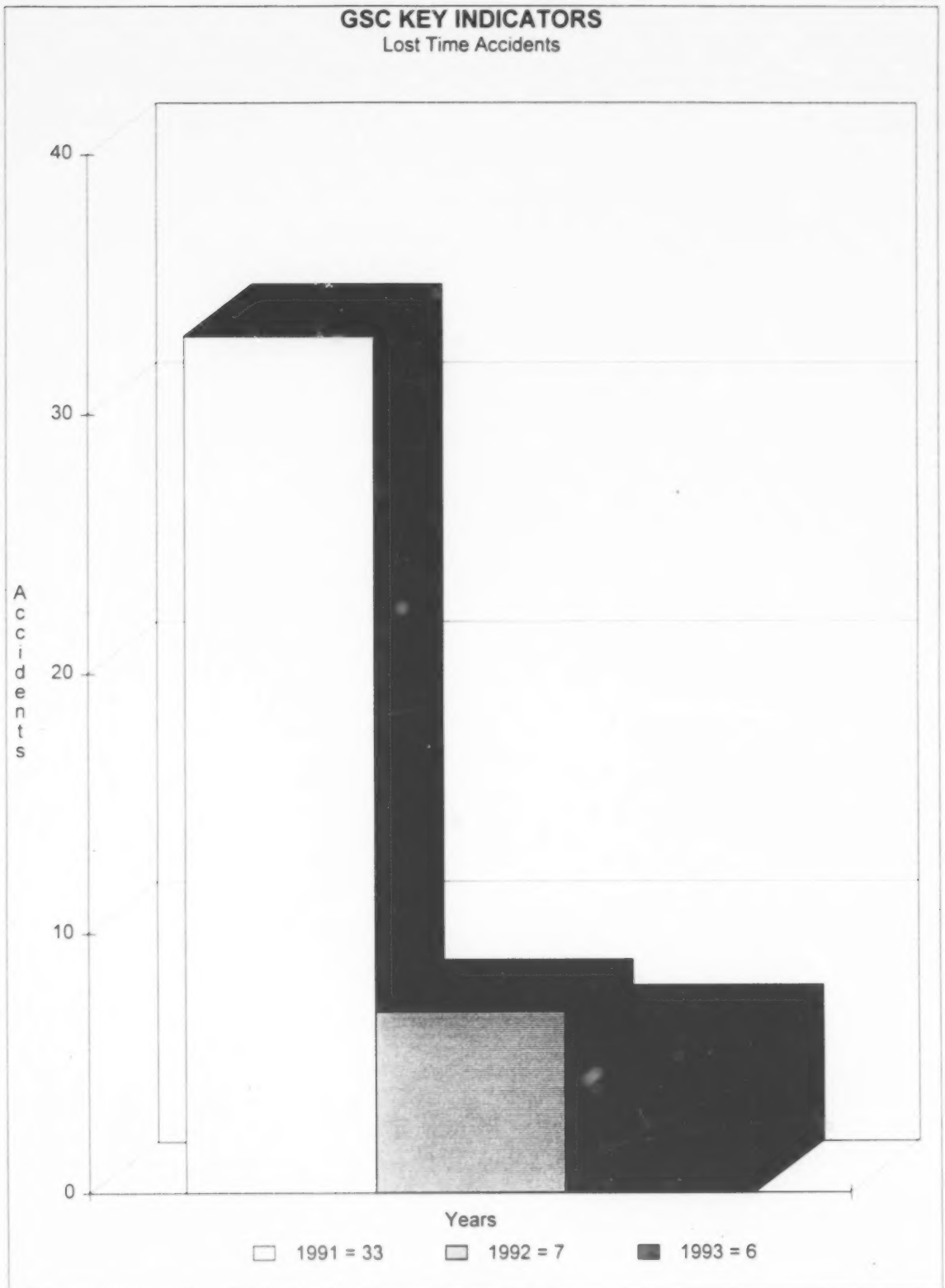
REDUCTION IN LOST TIME ACCIDENTS = 82% From 1991 to 1993



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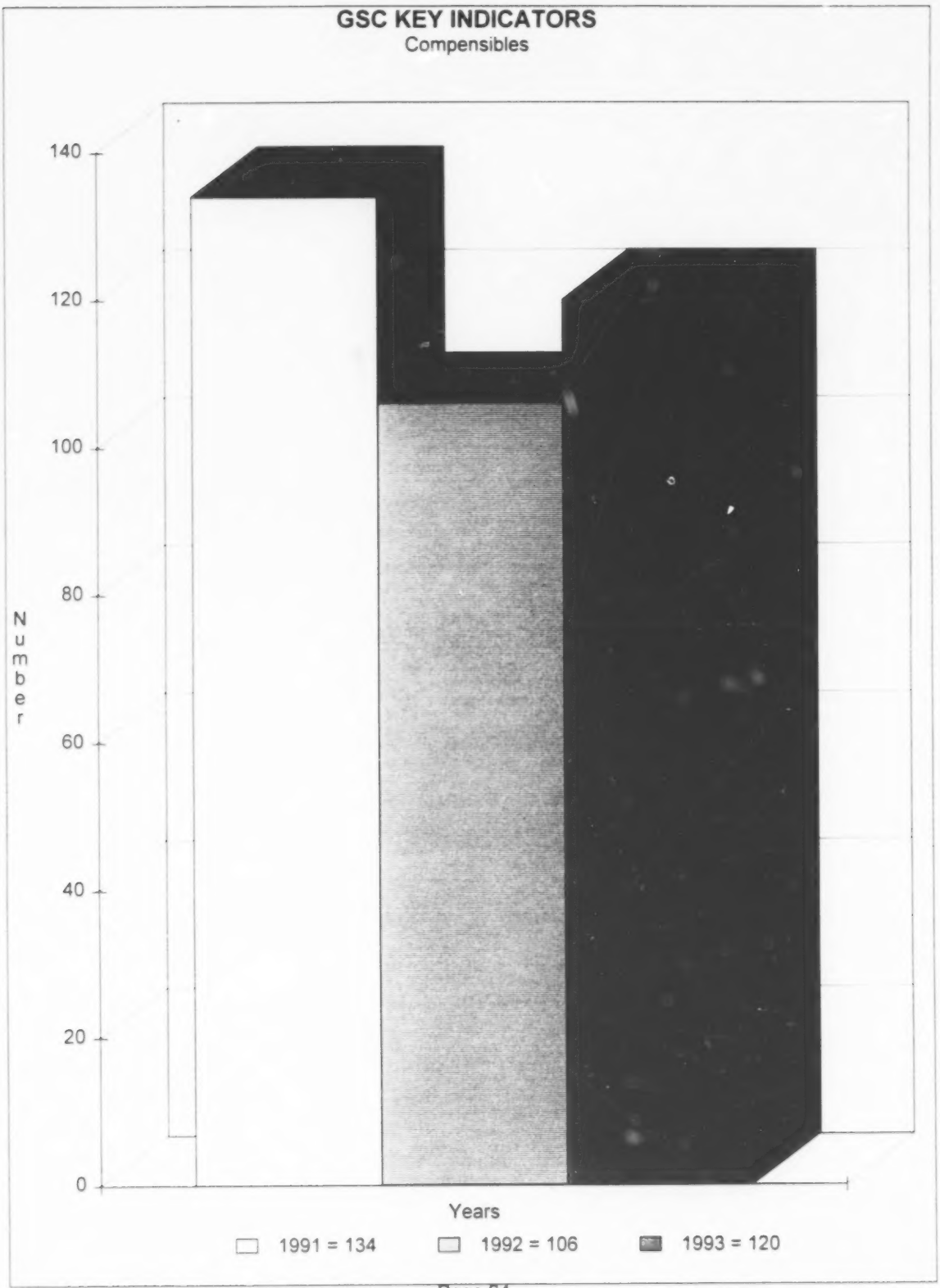
REDUCTION OF COMPENSIBLES = 11% From 1991 to 1993



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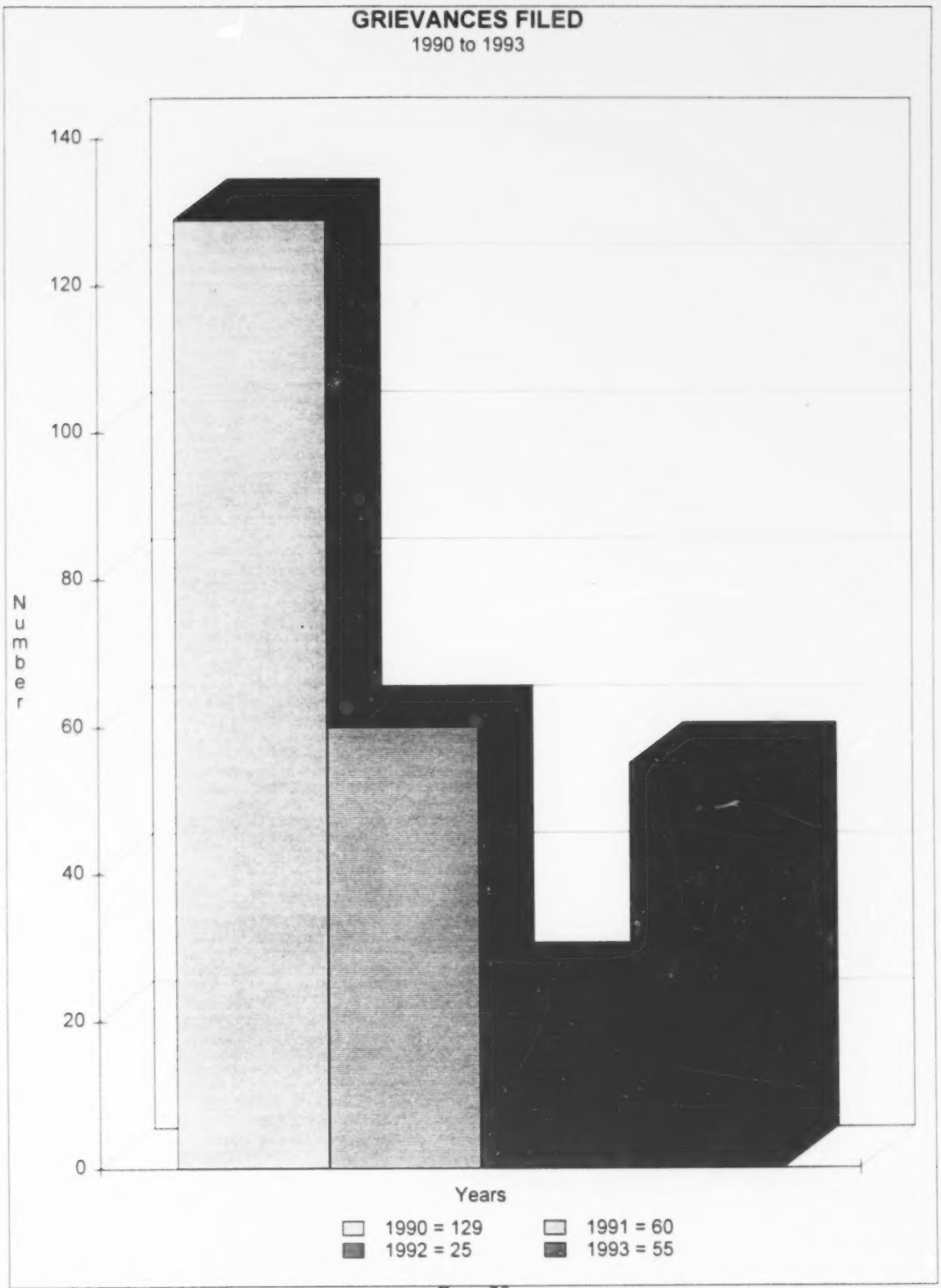
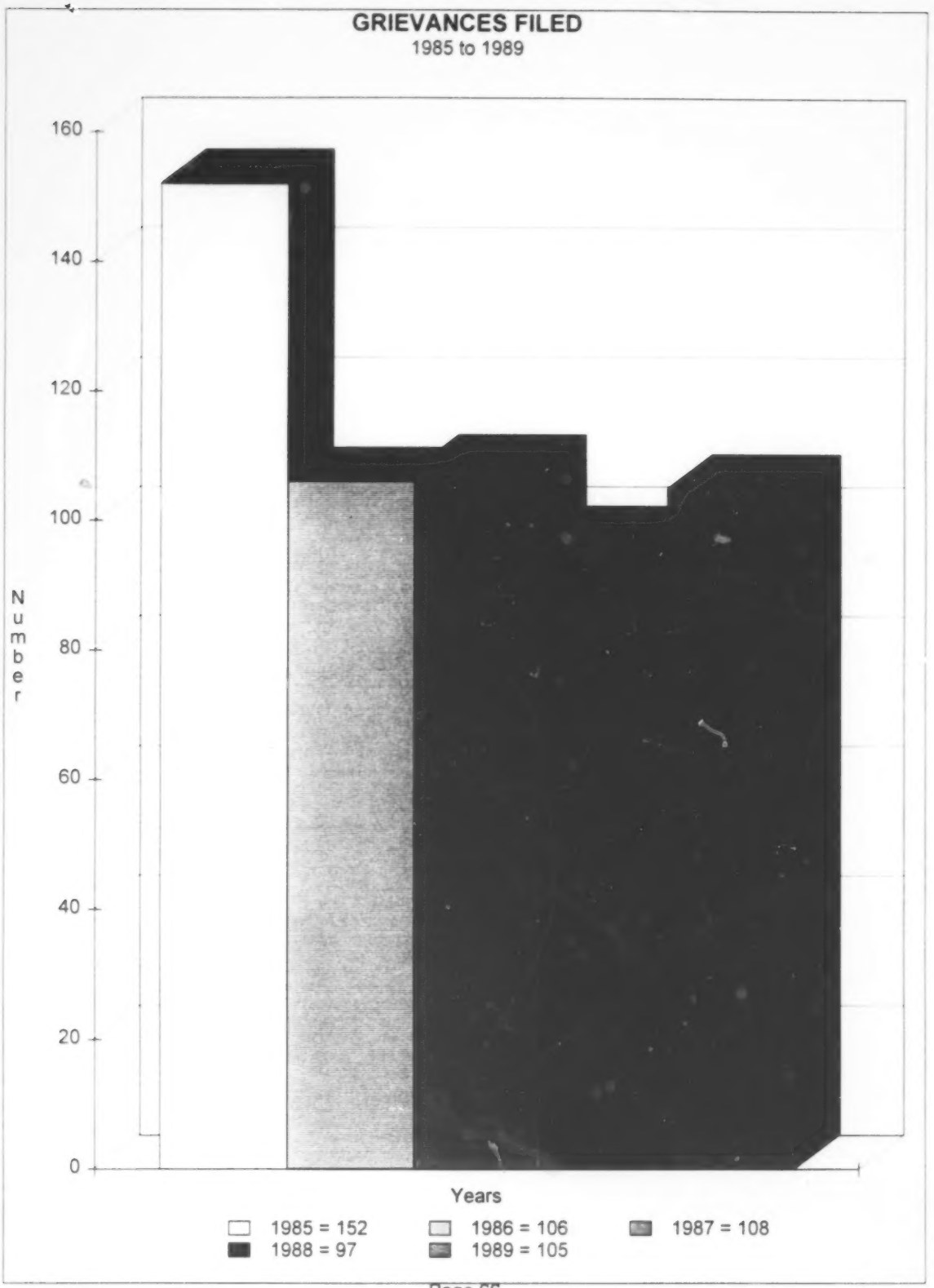
REDUCTION IN GRIEVANCES 1990 to 1993 = 57%



GRIEVANCES FROM 1985 to 1989 AVERAGED 113 PER YEAR



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